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THE ENERGIES OF MEN.[1]

WE habitually hear much nowadays of the difference between structural and functional psychology. I am not sure that I understand the difference, but it probably has something to do with what I have privately been accustomed to distinguish as the analytical and the clinical points of view in psychological observation. Professor Sanford, in a recently published "Sketch of a Beginner's Course in Psychology," recommended "the physician's attitude" in that subject as the thing the teacher should first of all try to impart to the pupil. I fancy that few of you can have read Professor Pierre Janet's masterly works in mental pathology without being struck by the little use he makes of the machinery usually relied on by psychologists, and by his own reliance on conceptions which in the laboratories and in scientific publications we never hear of at all.

Discriminations and associations, the rise and fall of thresholds, impulses and inhibitions, fatigue, — these are the terms into which our inner life is analyzed by psychologists who are not doctors, and in which, by hook or crook, its aberrations from normality have to be expressed. They can indeed be described, after the fact, in such terms, but always lamely; and everyone must feel how much is unaccounted for, how much left out.

When we turn to Janet's pages, we find entirely other forms of thought employed. Oscillations of the level of mental energy, differences of tension, splittings of consciousness, sentiments of insufficiency and of unreality, substitutions, agitations and anxieties, depersonalizations — such are the elementary conceptions

[1] Delivered as the Presidential Address before the American Philosophical Association at Columbia University, December 28, 1906.

which the total view of his patient's life imposes on this clinical observer. They have little or nothing to do with the usual laboratory categories. Ask a scientific psychologist to predict what symptoms a patient must have when his 'supply of mental energy' diminishes, and he can utter only the word 'fatigue.' He could never predict such consequences as Janet subsumes under his one term 'psychasthenia' — the most bizarre obsessions and agitations, the most complete distortions of the relation between the self and the world.

I do not vouch for Janet's conceptions being valid, and I do not say that the two ways of looking at the mind contradict each other or are mutually incongruous; I simply say that they are incongru*ent*. Each covers so little of our total mental life that they do not even interfere or jostle. Meanwhile the clinical conceptions, though they may be vaguer than the analytic ones, are certainly more adequate, give the concreter picture of the way the whole mind works, and are of far more urgent practical importance. So the 'physician's attitude,' the 'functional psychology,' is assuredly the thing most worthy of general study to-day.

I wish to spend this hour on one conception of functional psychology, a conception never once mentioned or heard of in laboratory circles, but used perhaps more than any other by common, practical men — I mean the conception of the *amount of energy available* for running one's mental and moral operations by. Practically every one knows in his own person the difference between the days when the tide of this energy is high in him and those when it is low, though no one knows exactly what reality the term energy covers when used here, or what its tides, tensions, and levels are in themselves. This vagueness is probably the reason why our scientific psychologists ignore the conception altogether. It undoubtedly connects itself with the energies of the nervous system, but it presents fluctuations that cannot easily be translated into neural terms. It offers itself as the notion of a quantity, but its ebbs and floods produce extraordinary qualitative results. To have its level raised is the most important thing that can happen to a man, yet in all my reading I

know of no single page or paragraph of a scientific psychology book in which it receives mention — the psychologists have left it to be treated by the moralists and mind-curers and doctors exclusively.

Every one is familiar with the phenomenon of feeling more or less alive on different days. Every one knows on any given day that there are energies slumbering in him which the incitements of that day do not call forth, but which he might display if these were greater. Most of us feel as if we lived habitually with a sort of cloud weighing on us, below our highest notch of clearness in discernment, sureness in reasoning, or firmness in deciding. Compared with what we ought to be, we are only half-awake. Our fires are damped, our drafts are checked. We are making use of only a small part of our possible mental and physical resources. In some persons this sense of being cut off from their rightful resources is extreme, and we then get the formidable neurasthenic and psychasthenic conditions, with life grown into one tissue of impossibilities, that the medical books describe.

Part of the imperfect vitality under which we labor can be explained by scientific psychology. It is the result of the inhibition exerted by one part of our ideas on other parts. Conscience makes cowards of us all. Social conventions prevent us from telling the truth after the fashion of the heroes and heroines of Bernard Shaw. Our scientific respectability keeps us from exercising the mystical portions of our nature freely. If we are doctors, our mind-cure sympathies, if we are mind-curists, our medical sympathies are tied up. We all know persons who are models of excellence, but who belong to the extreme philistine type of mind. So deadly is their intellectual respectability that we can't converse about certain subjects at all, can't let our minds play over them, can't even mention them in their presence. I have numbered among my dearest friends persons thus inhibited intellectually, with whom I would gladly have been able to talk freely about certain interests of mine, certain authors, say, as Bernard Shaw, Chesterton, Edward Carpenter, H. G. Wells, but it wouldn't

do, it made them too uncomfortable, they wouldn't play, I had to be silent. An intellect thus tied down by literality and decorum makes on one the same sort of impression that an able-bodied man would who should habituate himself to do his work with only one of his fingers, locking up the rest of his organism and leaving it unused.

In few of us are functions not tied-up by the exercise of other functions. G. T. Fechner is an extraordinary exception that proves the rule. He could use his mystical faculties while being scientific. He could be both critically keen and devout. Few scientific men can pray, I imagine. Few can carry on any living commerce with 'God.' Yet many of us are well aware how much freer in many directions and abler our lives would be, were such important forms of energizing not sealed up. There are in everyone potential forms of activity that actually are shunted out from use.

The existence of reservoirs of energy that habitually are not tapped is most familiar to us in the phenomenon of 'second wind.' Ordinarily we stop when we meet the first effective layer, so to call it, of fatigue. We have then walked, played, or worked 'enough,' and desist. That amount of fatigue is an efficacious obstruction, on this side of which our usual life is cast. But if an unusual necessity forces us to press onward, a surprising thing occurs. The fatigue gets worse up to a certain critical point, when gradually or suddenly it passes away, and we are fresher than before. We have evidently tapped a level of new energy, masked until then by the fatigue-obstacle usually obeyed. There may be layer after layer of this experience. A third and a fourth 'wind' may supervene. Mental activity shows the phenomenon as well as physical, and in exceptional cases we may find, beyond the very extremity of fatigue distress, amounts of ease and power that we never dreamed ourselves to own, sources of strength habitually not taxed at all, because habitually we never push through the obstruction, never pass those early critical points.

When we do pass, what makes us do so?

Either some unusual stimulus fills us with emotional excite-

ment, or some unusual idea of necessity induces us to make an extra effort of will. *Excitements, ideas, and efforts*, in a word, are what carry us over the dam.

In those hyperesthetic conditions which chronic invalidism so often brings in its train, the dam has changed its normal place. The pain-threshold is abnormally near. The slightest functional exercise gives a distress which the patient yields to and stops. In such cases of 'habit-neurosis' a new range of power often comes in consequence of the bullying-treatment, of efforts which the doctor obliges the patient, against his will, to make. First comes the very extremity of distress, then follows unexpected relief. There seems no doubt that we are each and all of us to some extent victims of habit-neurosis. We have to admit the wider potential range and the habitually narrow actual use. We live subject to inhibition by degrees of fatigue which we have come only from habit to obey. Most of us may learn to push the barrier farther off, and to live in perfect comfort on much higher levels of power.

Country people and city people, as a class, illustrate this difference. The rapid rate of life, the number of decisions in an hour, the many things to keep account of, in a busy city-man's or woman's life, seem monstrous to a country-brother. He doesn't see how we live at all. But settle him in town; and in a year or two, if not too old, he will have trained himself to keep the pace as well as any of us, getting more out of himself in any week then he ever did in ten weeks at home. The physiologists show how one can be in nutritive equilibrium, neither losing nor gaining weight, on astonishingly different quantities of food. So one can be in what I might call 'efficiency-equilibrium' (neither gaining nor losing power when once the equilibrium is reached), on astonishingly different quantities of work, no matter in what dimension the work may be measured. It may be physical work, intellectual work, moral work, or spiritual work.

Of course there are limits: the trees don't grow into the sky. But the plain fact remains that men the world over possess amounts of resource, which only very exceptional individuals push to their extremes of use.

The excitements that carry us over the usually effective dam are most often the classic emotional ones, love, anger, crowd-contagion, or despair. Life's vicissitudes bring them in abundance. A new position of responsibility, if it do not crush a man, will often, nay, one may say, will usually, show him to be a far stronger creature than was supposed. Even here we are witnessing (some of us admiring, some deploring — I must class myself as admiring) the dynamogenic effects of a very exalted political office upon the energies of an individual who had already manifested a healthy amount of energy before the office came.

Mr. Sydney Olivier has given us a fine fable of the dynamogenic effects of love in a fine story called "The Empire Builder," in the *Contemporary Review* for May, 1905. A young naval officer falls in love at sight with a missionary's daughter on a lost island, which his ship accidentally touches. From that day onward he must see her again; and he so moves Heaven and earth and the Colonial Office and the Admiralty to get sent there once more, that the island finally is annexed to the empire in consequence of the various fusses he is led to make. People must have been appalled lately in San Francisco to find the stores of bottled up energy and endurance they possessed.

Wars, of course, and shipwrecks, are the great revealers of what men and women are able to do and bear. Cromwell's and Grant's careers are the stock examples of how war will wake a man up. I owe to Professor Norton's kindness the permission to read to you part of a letter from Colonel Baird-Smith, written shortly after the six weeks' siege of Delhi in 1857, for the victorious issue of which that excellent officer was chiefly to be thanked. He writes as follows:—

. . . "My poor wife had some reason to think that war and disease between them had left very little of a husband to take under nursing when she got him again. An attack of camp-scurvy had filled my mouth with sores, shaken every joint in my body, and covered me all over with sores and livid spots so that I was marvellously unlovely to look upon. A smart knock on the ankle-joint from the splinter of a shell that burst in my face, in itself a mere bagatelle of a wound, had been of necessity

neglected under the pressing and incessant calls upon me, and had grown worse and worse till the whole foot below the ankle became a black mass and seemed to threaten mortification. I insisted however on being allowed to use it till the place was taken, mortification or no; and though the pain was sometimes horrible, I carried my point and kept up to the last. On the day after the assault I had an unlucky fall on some bad ground, and it was an open question for a day or two whether I hadn't broken my arm at the elbow. Fortunately it turned out to be only a very severe sprain, but I am still conscious of the wrench it gave me. To crown the whole pleasant catalogue, I was worn to a shadow by a constant diarrhea, and consumed as much opium as would have done credit to my father-in-law.[1] However, thank God I have a good share of Tapleyism in me and come out strong under difficulties. I think I may confidently say that no man ever saw me out of heart, or ever heard one croaking word from me even when our prospects were gloomiest. We were sadly scourged by the cholera and it was almost appalling to me to find that out of twenty-seven officers present, I could only muster fifteen for the operations of the attack. However, it was done, and after it was done came the collapse. Don't be horrified when I tell you that for the whole of the actual siege, and in truth for some little time before, I almost lived on brandy. Appetite for food I had none, but I forced myself to eat just sufficient to sustain life, and I had an incessant craving for brandy as the strongest stimulant I could get. Strange to say, I was quite unconscious of its affecting me in the slightest degree. *The excitement of the work was so great that no lesser one seemed to have any chance against it, and I certainly never found my intellect clearer or my nerves stronger in my life.* It was only my wretched body that was weak, and the moment the real work was done by our becoming complete masters of Delhi, I broke down without delay and discovered that if I wished to live I must continue no longer the system that had kept me up until the crisis was past. With it passed away as if in a moment all desire to stimulate, and a perfect loathing of my late staff of life took possession of me."

[1] Thomas De Quincey.

Such experiences show how profound is the alteration in the manner in which, under excitement, our organism will sometimes perform its physiological work. The metabolisms become different when the reserves have to be used, and for weeks and months the deeper use may go on.

Morbid cases, here as elsewhere, lay the normal machinery bare. In the first number of Dr. Morton Prince's *Journal of Abnormal Psychology*, Dr. Janet has discussed five cases of morbid impulse, with an explanation that is precious for my present point of view. One is a girl who eats, eats, eats all day. Another walks, walks, walks, and gets her food from an automobile that escorts her. Another is a dipsomaniac. A fourth pulls out her hair. A fifth wounds her flesh and burns her skin. Hitherto such freaks of impulse have received Greek names (as bulimia, dromomania, etc.) and been scientifically disposed of as "episodic syndromata of hereditary degeneration." But it turns out that Janet's cases are all what he calls psychasthenics, or victims of a chronic sense of weakness, torpor, lethargy, fatigue, insufficiency, impossibility, unreality, and powerlessness of will; and that in each and all of them the particular activity pursued, deleterious though it be, has the temporary result of raising the sense of vitality and making the patient feel alive again. These things reanimate; they would reanimate *us;* but it happens that in each patient the particular freak-activity chosen is the only thing that does reanimate; and therein lies the morbid state. The way to treat such persons is to discover to them more usual and useful ways of throwing their stores of vital energy into gear.

Colonel Baird-Smith, needing to draw on altogether extraordinary stores of energy, found that brandy and opium were ways of throwing them into gear.

Such cases are humanly typical. We are all to some degree oppressed, unfree. We don't come to our own. It is there, but we don't get at it. The threshold must be made to shift. Then many of us find that an excentric activity — a 'spree,' say — relieves. There is no doubt that to some men sprees and excesses of almost any kind are medicinal, temporarily at any rate, in spite of what the moralists and doctors say.

But when the normal tasks and stimulations of life don't put a man's deeper levels of energy on tap, and he requires distinctly deleterious excitements, his constitution verges on the abnormal. The normal opener of deeper and deeper levels of energy is the will. The difficulty is to use it; to make the effort which the word volition implies. But if we *do* make it (or if a god, though he were only the god Chance, makes it through us), it will act dynamogenically on us for a month. It is notorious that a single successful effort of moral volition, such as saying 'no' to some habitual temptation, or performing some courageous act, will launch a man on a higher level of energy for days and weeks, will give him a new range of power.

The emotions and excitements due to usual situations are the usual inciters of the will. But these act discontinuously; and in the intervals the shallower levels of life tend to close in and shut us off. Accordingly the best practical knowers of the human soul have invented the thing known as methodical ascetic discipline to keep the deeper levels constantly in reach. Beginning with easy tasks, passing to harder ones, and exercising day by day, it is, I believe, admitted that disciples of asceticism can reach very high levels of freedom and power of will.

Ignatius Loyola's spiritual exercises must have produced this result in innumerable devotees. But the most venerable ascetic system, and the one whose results have the most voluminous experimental corroboration, is undoubtedly the Yoga system in Hindostan. From time immemorial, by Hatha Yoga, Raja Yoga, Karma Yoga, or whatever code of practice it might be, Hindu aspirants to perfection have trained themselves, month in and out, for years. The result claimed, and certainly in many cases accorded by impartial judges, is strength of character, personal power, unshakability of soul. But it is not easy to disentangle fact from tradition in Hindu affairs. So I am glad to have a European friend who has submitted to Hatha Yoga training, and whose account of the results I am privileged to quote. I think you will appreciate the light it throws on the question of our unused reservoirs of power.

My friend is an extraordinarily gifted man, both morally and

intellectually, but has an instable nervous system, and for many years has lived in a circular process of alternate lethargy and over-animation: something like three weeks of extreme activity, and then a week of prostration in bed. An unpromising condition, which the best specialists in Europe had failed to relieve; so he tried Hatha Yoga, partly out of curiosity, and partly with a sort of desperate hope. What follows is a short extract from a letter sixty pages long which he addressed me a year ago.

"Thus I decided to follow Vivekananda's advice: 'Practice hard: whether you live or die by it doesn't matter.' My improvised chela and I began with starvation. I do not know whether you did try it ever . . . but voluntary starvation is very different from involuntary, and implies more temptations. We reduced first our meals to twice a day and then to once a day. The best authorities agree that in order to control the body fasting is essential, and even in the Gospel the worst spirits are said to obey only those who fast and pray. We reduced very much the amount of food, disregarding chemical theories about the need of albumen, sometimes living on olive oil and bread; or on fruits alone; or on milk and rice; in very small quantities — much less than I formerly ate at one meal. I began to get lighter every day, and lost 20 pounds in a few weeks; but this could not stop such a desperate undertaking . . . rather starve than live as a slave! Then besides we practised *asana* or postures, breaking almost our limbs. Try to sit down on the floor and to kiss your knees without bending them, or to join your hands on the usually unapproachable upper part of your back, or to bring the toe of your right foot to your left ear without bending the knees . . . these are easy samples of posture for a Yogi.

"All the time also breathing exercises: keeping the breath in and out up to two minutes, breathing in different rhythms and positions. Also very much prayer and Roman Catholic practices combined with the Yoga, in order to leave nothing untried and to be protected against the tricks of Hindu devils! Then concentration of thought on different parts of the body, and on the processes going on within them. Exclusion of all emotions, dry logical reading, as intellectual diet, and working out logical

problems . . . I wrote a Handbook of Logic as a *Nebenprodukt* of the whole experiment.[1]

"After a few weeks I broke down and had to interrupt everything, in a worse state of prostration than ever . . . My younger chela went on unshaken by my fate; and as soon as I arose from bed I tried again, decided to fight it out, even feeling a kind of determination such as I had never felt before, a certain absolute will of victory at any price and faith in it. Whether it is my own merit or a divine grace, I cannot judge for certain, but I prefer to admit the latter. I had been ill for seven years, and some people say this is a term for many punishments. However base and vile a sinner I had been, perhaps my sins were about to be forgiven, and Yoga was only an exterior opportunity, an object for concentration of will. I do not yet pretend to explain much of what I have gone through, but the fact is that since I arose from bed on August 20, no new crisis of prostration came again, and I have now the strongest conviction that no crisis will ever return. If you consider that for the past years there has been not a single month without this lethargy, you will grant that even to an outside observer four successive months of increasing health are an objective test. In this time I underwent very severe penances, reducing sleep and food and increasing the task of work and exercise. My intuition was developed by these practices: there came a sense of certainty, never known before, as to the things needed by the body and the mind, and the body came to obey like a wild horse tamed. Also the mind learned to obey, and the current of thought and feeling was shaped according to my will. I mastered sleep and hunger, and the flights of thought, and came to know a peace never known before, an inner rhythm of unison with a deeper rhythm above or beyond. Personal wishes ceased, and the consciousness of being the instrument of a superior power arose. A calm certainty of indubitable success in every undertaking imparts great and real power. I often guessed the thoughts of my companion . . . we observed generally the greatest isolation and silence. We both felt an unspeakable joy in the simplest natural

[1] This handbook was published last March.

impressions, light, air, landscape, any kind of simplest food; and above everything in rhythmical respiration, which produces a state of mind without thought or feeling, and still very intense, indescribable.

"These results began to be more evident in the fourth month of uninterrupted training. We felt quite happy, never tired, sleeping only from 8 P. M. to midnight, and rising with joy from our sleep to another day's work of study and exercise. . . .

"I am now in Palermo, and have had to neglect the exercises in the last few days, but I feel as fresh as if I were in full training and see the sunny side of all things. I am not in a hurry, rushing to complete ——— ."

And here my friend mentions a certain life-work of his own about which I had better be silent. He goes on to analyze the exercises and their effects in an extremely practical way, but at too great length for me to entertain you with. Repetition, alteration, periodicity, parallelism (or the association of the idea of some desirable vital or spiritual effect with each movement), etc., are laws which he deems highly important. "I am sure," he continues, "that everybody who is able to concentrate thought and will, and to eliminate superfluous emotions, sooner or later becomes a master of his body and can overcome every kind of illness. This is the truth at the bottom of all mind-cures. Our thoughts have a plastic power over the body."

You will be relieved, I doubt not, to hear my excentric correspondent here make connection at last with something you know by heart, namely, "suggestive therapeutics." Call his whole performance, if you like, an experiment in methodical self-suggestion. That only makes it more valuable as an illustration of what I wish to impress in as many ways as possible upon your minds, that we habitually live inside our limits of power. Suggestion, especially under hypnosis, is now universally recognized as a means, exceptionally successful in certain persons, of concentrating consciousness, and, in others, of influencing their body's states. It throws into gear energies of imagination, of will, and of mental influence over physiological processes, that usually lie dormant, and that can only be thrown into gear at

all in chosen subjects. It is, in short, dynamogenic; and the cheapest terms in which to deal with our amateur Yogi's experience is to call it auto-suggestive.

I wrote to him that I couldn't possibly attribute any sacramental value to the particular Hatha Yoga processes, the postures, breathings, fastings, and the like, and that they seemed to me but so many manners, available in his case and his chela's, but not for everybody, of breaking through the barriers which life's routine had concreted round the deeper strata of the will, and gradually bringing its unused energies into action.

He replied as follows: "You are quite right that the Yoga exercises are nothing else than a methodical way of increasing our will. Because we are unable to will at once the most difficult things, we must imagine steps leading to them. Breathing being the easiest of the bodily activities, it is very natural that it offers a good scope for exercise of will. The control of thought could be gained without breathing-discipline, but it is simply easier to control thought simultaneously with the control of breath. Anyone who can think clearly and persistently of one thing needs not breathing exercises. You are quite right that we are not using all our power and that we often learn how much we *can* only when we *must*. . . . The power that we do not use up completely can be brought [more and more] into use by what we call *faith*. Faith is like the manometer of the will, registering its pressure. If I could believe that I can levitate, I could do it. But I cannot believe, and therefore I am clumsily sticking to earth . . . Now this faith, this power of credulity, can be educated by small efforts. I can breathe at the rate of say twelve times a minute. I can easily believe that I can breathe ten times a minute. When I have accustomed myself to breathe ten times a minute, I learn to believe it will be easy to breathe six times a minute. Thus I have actually learned to breathe at the rate of once a minute. How far I shall progress I do not know. . . . The Yogi goes on in his activity in an even way, without fits of too much or too little, and he is eliminating more and more every unrest, every worry — growing into the infinite by regular training, by small additions to a task which has grown familiar. . . .

But you are quite right that religious crises, love-crises, indignation-crises, may awaken in a very short time powers similar to those reached by years of patient Yoga practice. . . . The Hindus themselves admit that Samadhi can be reached in many ways and with complete disregard of every physical training."

Allowance made for every enthusiasm and exaggeration, there can be no doubt of my friend's regeneration — relatively, at any rate. The second letter, written six months later than the first (ten months after beginning Yoga practice, therefore), says the improvement holds good. He has undergone material trials with indifference, travelled third class on Mediterranean steamers, and fourth class on African trains, living with the poorest Arabs and sharing their unaccustomed food, all with equanimity. His devotion to certain interests has been put to heavy strain, and nothing is more remarkable to me than the changed moral tone with which he reports the situation. Compared with certain earlier letters, these read as if written by a different man, patient and reasonable instead of vehement, self-subordinating instead of imperious. The new tone persists in a communication received only a fortnight ago (fourteen months after beginning training) — there is, in fact, no doubt that profound modification has occurred in the running of his mental machinery. The gearing has changed, and his will is available otherwise than it was. Available without any new ideas, beliefs, or emotions, so far as I can make out, having been implanted in him. He is simply more balanced where he was more unbalanced.

You will remember that he speaks of faith, calling it a 'manometer' of the will. It sounds more natural to call our will the manometer of our faiths. Ideas set free beliefs, and the beliefs set free our wills (I use these terms with no pretension to be 'psychological'), so the will-acts register the faith-pressure within. Therefore, having considered the liberation of our stored-up energy by emotional excitements and by efforts, whether methodical or unmethodical, I must now say a word about *ideas* as our third great dynamogenic agent. Ideas contradict other ideas and keep us from believing them. An idea that thus negates

a first idea may itself in turn be negated by a third idea, and the first idea may thus regain its natural influence over our belief and determine our behavior. Our philosophic and religious development proceeds thus by credulities, negations, and the negating of negations.

But whether for arousing or for stopping belief, ideas may fail to be efficacious, just as a wire at one time alive with electricity, may at another time be dead. Here our insight into causes fails us, and we can only note results in general terms. In general, whether a given idea shall be a live idea, depends more on the person into whose mind it is injected than on the idea itself. The whole history of 'suggestion' opens out here. Which are the suggestive ideas for this person, and which for that? Beside the susceptibilities determined by one's education and by one's original peculiarities of character, there are lines along which men simply as men tend to be inflammable by ideas. As certain objects naturally awaken love, anger, or cupidity, so certain ideas naturally awaken the energies of loyalty, courage, endurance, or devotion. When these ideas are effective in an individual's life, their effect is often very great indeed. They may transfigure it, unlocking innumerable powers which, but for the idea, would never have come into play. 'Fatherland,' 'The Union,' 'Holy Church,' the 'Monroe Doctrine,' 'Truth,' 'Science,' 'Liberty,' Garibaldi's phrase 'Rome or Death,' etc., are so many examples of energy-releasing abstract ideas. The *social* nature of all such phrases is an essential factor of their dynamic power. They are forces of detent in situations in which no other force produces equivalent effects, and each is a force of detent only in a specific group of men.

The memory that an oath or vow has been made will nerve one to abstinences and efforts otherwise impossible: witness the 'pledge' in the history of the temperance movement. A mere promise to his sweetheart will clean up a youth's life all over — at any rate for a time. For such effects an educated susceptibility is required. The idea of one's 'honour,' for example, unlocks energy only in those who have had the education of a gentleman, so called.

That delightful being, Prince Pueckler-Muskau, writes to his wife from England that he has invented "a sort of artificial resolution respecting things that are difficult of performance." "My device," he says, "is this: I give my word of honour most solemnly to myself to do or to leave undone this or that. I am of course extremely cautious in the use of this expedient, but when once the word is given, even though I afterwards think I have been precipitate or mistaken, I hold it to be perfectly irrevocable, whatever inconveniences I foresee likely to result. If I were capable of breaking my word after such mature consideration, I should lose all respect for myself — and what man of sense would not prefer death to such an alternative? . . . When the mysterious formula is pronounced, no alteration in my own views, nothing short of physical impossibility, must, for the welfare of my soul, alter my will. . . . I find something very satisfactory in the thought that man has the power of framing such props and weapons out of the most trivial materials, indeed out of nothing, merely by the force of his will, which thereby truly deserves the name of omnipotent." [1]

Conversions, whether they be political, scientific, philosophic, or religious, form another way in which bound energies are let loose. They unify, and put a stop to ancient mental interferences. The result is freedom, and often a great enlargement of power. A belief that thus settles upon an individual always acts as a challenge to his will. But, for the particular challenge to operate, he must be the right challeng*ee*. In religious conversions we have so fine an adjustment that the idea may be in the mind of the challengee for years before it exerts effects; and why it should do so then is often so far from obvious that the event is taken for a miracle of grace, and not a natural occurrence. Whatever it is, it may be a highwater mark of energy, in which 'noes,' once impossible, are easy, and in which a new range of 'yeses' gain the right of way.

We are just now witnessing — but our scientific education has unfitted most of us for comprehending the phenomenon — a very

[1] *Tour in England, Ireland, and France*, Philadelphia, 1833, p. 435.

copious unlocking of energies by ideas, in the persons of those converts to 'New Thought,' 'Christian Science,' 'Metaphysical Healing,' or other forms of spiritual philosophy, who are so numerous among us to-day. The ideas here are healthy-minded and optimistic; and it is quite obvious that a wave of religious activity, analogous in some respects to the spread of early Christianity, Buddhism, and Mohammedanism is passing over our American world. The common feature of these optimistic faiths is that they all tend to the suppression of what Mr. Horace Fletcher calls "fear thought." Fear thought he defines as "the self-suggestion of inferiority"; so that one may say that these systems all operate by the suggestion of power. And the power, small or great, comes in various shapes to the individual, power, as he will tell you, not to 'mind' things that used to vex him, power to concentrate his mind, good cheer, good temper, in short, to put it mildly, a firmer, more elastic moral tone. The most genuinely saintly person I have ever known is a friend of mine now suffering from cancer of the breast. I do not assume to judge of the wisdom or unwisdom of her disobedience to the doctors, and I cite her here solely as an example of what ideas can do. Her ideas have kept her a practically well woman for months after she should have given up and gone to bed. They have annulled all pain and weakness and given her a cheerful active life, unusually beneficent to others to whom she has afforded help.

How far the mind-cure movement is destined to extend its influence, or what intellectual modifications it may yet undergo, no one can foretell. Being a religious movement, it will certainly outstrip the previsions of its rationalist critics, such as we here may be supposed to be.

I have thus brought a pretty wide induction to bear upon my thesis, and it appears to hold good. The human individual lives usually far within his limits; he possesses powers of various sorts which he habitually fails to use. He energizes below his maximum, and he behaves below his optimum. In elementary faculty, in coördination, in power of inhibition and control, in every

conceivable way, his life is contracted like the field of vision of an hysteric subject — but with less excuse, for the poor hysteric is diseased, while in the rest of us it is only an inveterate *habit* — the habit of inferiority to our full self — that is bad.

Expressed in this vague manner, everyone must admit my thesis to be true. The terms have to remain vague ; for though every man of woman born knows what is meant by such phrases as having a good vital tone, a high tide of spirits, an elastic temper, as living energetically, working easily, deciding firmly, and the like, we should all be put to our trumps if asked to explain in terms of scientific psychology just what such expressions mean. We can draw some child-like psychophysical diagrams, and that is all. In physics the conception of 'energy' is perfectly defined. It is correlated with the conception of 'work.' But mental work and moral work, although we cannot live without talking about them, are terms as yet hardly analyzed, and doubtless mean several heterogeneous elementary things. Our muscular work is a voluminous physical quantity, but our ideas and volitions are minute forces of release, and by 'work' here we mean the substitution of higher *kinds* for lower *kinds* of detent. Higher and lower here are qualitative terms, not translatable immediately into quantities, unless indeed they should prove to mean newer or older forms of cerebral organization, and unless newer should then prove to mean cortically more superficial, older, cortically more deep. Some anatomists, as you know, have pretended this ; but it is obvious that the intuitive or popular idea of mental work, fundamental and absolutely indispensable as it is in our lives, possesses no degree whatever of scientific clearness to-day.

Here, then, is the first problem that emerges from our study. Can any one of us refine upon the conceptions of mental work and mental energy, so as later to be able to throw some definitely analytic light on what we mean by 'having a more elastic moral tone,' or by 'using higher levels of power and will'? I imagine that we may have to wait long before progress in this direction is made. The problem is too homely ; one doesn't see just how to get in the electric keys and revolving drums that alone make psychology scientific to-day.

My fellow-pragmatist in Florence, G. Papini, has adopted a new conception of philosophy. He calls it the *doctrine of action* in the widest sense, the study of all human powers and means (among which latter, *truths* of every kind whatsoever figure, of course, in the first rank). From this point of view philosophy is a *Pragmatic*, comprehending, as tributary departments of itself, the old disciplines of logic, metaphysic, physic, and ethic.

And here, after our first problem, two other problems burst upon our view. My belief that these two problems form a program of work well worthy of the attention of a body as learned and earnest as this audience, is, in fact, what has determined me to choose this subject, and to drag you through so many familiar facts during the hour that has sped.

The first of the two problems is *that of our powers*, the second *that of our means*. We ought somehow to get a topographic survey made of the limits of human power in every conceivable direction, something like an ophthamologist's chart of the limits of the human field of vision; and we ought then to construct a methodical inventory of the paths of access, or keys, differing with the diverse types of individual, to the different kinds of power. This would be an absolutely concrete study, to be carried on by using historical and biographical material mainly. The limits of power must be limits that have been realized in actual persons, and the various ways of unlocking the reserves of power must have been exemplified in individual lives. Laboratory experimentation can play but a small part. Your psychologist's *Versuchsthier*, outside of hypnosis, can never be called on to tax his energies in ways as extreme as those which the emergencies of life will force on him.

So here is a program of concrete individual psychology, at which anyone in some measure may work. It is replete with interesting facts, and points to practical issues superior in importance to anything we know. I urge it therefore upon your consideration. In some shape we have all worked at it in a more or less blind and fragmentary way; yet before Papini mentioned it I had never thought of it, or heard it broached by anyone, in

the generalized form of a program such as I now suggest, a program that might with proper care be made to cover the whole field of psychology, and might show us parts of it in a very fresh light.

It is just the generalizing of the problem that seems to me to make so strong an appeal. I hope that in some of you the conception may unlock unused reservoirs of investigating power.

WILLIAM JAMES.

HARVARD UNIVERSITY.

CONSTITUTIVE CONSISTENCY.

CONSISTENCY may be defined as the tendency of any self-determined system of activities to maintain itself.[1] The self involved is most concrete, namely, the reflective multipolar self-in-relations-to-other-selves of social experience. Types of consistency may be distinguished as habitual and accommodative, the former being a tendency to repeat and keep up present organization, the latter, a tendency to reorganize the reflective consciousness whenever the unity and continuity of experience demands it. The former is sameness in objects and motor processes; the latter is a readiness to abandon or remodel the old object, and to readjust the self, whenever greater unity and simplicity or the perfect continuity of experience may need it. The result of the two tendencies is the continual revamping of conceptions and re-articulation of the world which actually make up the course and content of reflective experience. Reflective experience is self-maintaining, and consistency is an immediate consciousness of that quality. The self needs a manifold content; but we also need continuity, harmony, and coherence. We need impulsiveness and spontaneity, but also the inhibition and control of impulse. We need variety, but know that without unity it were mere blind confusion and chaos.

These two *types* of self-maintenance are found in all the typical attitudes and activities of life. They appear within each of several distinguishable *kinds* of self-maintenance, that of judgment, of practical action, of purpose, etc. Let us, in this paper, consider the consistency which constitutes the world, the consistency of objective contents.

It is a familiar fact that no content is absolutely fixed and changeless. Quality changes and objects are continually losing and acquiring their attributes. Trees, stones, stars, governments, atoms, fairies, — nothing persists except as we choose so to regard it. Nothing permanent is given in experience, and when

[1] *Cf. Journal of Phil., Psych., and Sc. Meth.*, Vol. III, pp. 113 and 457.

we appeal to the evidences of the senses to prove the reality of any object, we actually appeal, not to the given qualitative factors of sense, but to reason or something far removed from sense. 'There is a spring beside the Hurricane trail.' 'How do you know?' 'Because I can again go and slake my thirst from it.' But the proof does not lie in the mere qualitative content of the experience. It lies also in the postulated continuity of the existence of the spring which consistency demands. This will appear from the following genetic classification of contents.

Content of experience may be either (1) the bare content of immediate experience, the flash of light in the night, the child's 'first' experience of the candle flame, or (2) a content which suggests other contents, as the hitching-post suggests other contents to the horse, or (3) contents which imply other contents having the significance of predictions and controls. The first is mere quality; the second is quality associated with other qualities empirically; the third is a manifold of qualitative contents organized and set over against the self as objects of reflection, contents arranged in series or systems corresponding point for point to the activities of self.

The first sort of content arises without meaning out of the continuum of existence. In the second an almost characterless continuum, illuminated here and there by some bright moving thing, shot through with pain, or grey-green with discomfort and hunger, has begun to break up and organize into a cosmos. Association and assimilation have begun, and those complex chains of ideas which are the simplest and most fundamental forms of thought. All contents presuppose conative attitudes and self-reference, but in neither of the two sorts of content just mentioned are these presuppositions contents. All content is the fruit of action, but in neither of these is the action self-centered or deliberate. Contents of the third order are only possible where the self has begun to function as the controlling factor of action. Self-reference is then no longer presupposed but actual. Self has become the most important determinant of the organization of contents. Contents are here permanent and coherent; they are objects with the individuality and interrelatedness of a

world. But the permanence and coherence are not mere qualities given, like colors, in sensation. They are demands made by the self upon the recurring elements of its experience. They characterize contents which consist with the self by sharing its unity and continuity. And they are not absolute. No attribute or combination of attributes, as such, possesses unity and continuity. When we ask, What is permanent? all we can say in answer is, That which recurs and abides, and this is no single nameable thing whatsoever. These traits belong to the accommodative rather than to the habitual type of consistency. They are prospective and demanded, while qualities are retrospective and given. The latter are, as a matter of fact, never recurrent or permanent.

As a principle of selection in thinking, the demand for consistency and self-maintenance is *a priori*. The object as such must consist with the self, and for this reason we find its consistency in it. It is not an object, but a mere fancy, unless it is continuous and harmonious with other objects in the unity of a permanent and orderly world. Constitutive consistency is objective as well as *a priori*. Hence the scientific and philosophical ideal of absolute truth and infallible judgment. This ideal contains all the essentials of constitutive consistency, abstracted from the correlative demands of other kinds of consistency. It is the absolute thought, the unconditioned intelligence. We turn to it with emotions of reverence and dependence for correction, sobriety, and commendation. Like other ideals, it is both habitual and accommodative, both understood and mysterious. So long as unidentified objects remain in the world, the ultimate demands of constitutive consistency remain mysterious, and a part of existence remains unrelated by correspondence to the self. The infallible judgment and completely intelligible world are as fundamental in the intellectual life as the notion of a regular law-abiding will is in the practical life. This defines an immediate motor attitude or passion, and it gives law to all particular judgments: 'So think that the principle of your judgment may be universally available for control.'

Hence the autonomy of the intellect. The infallible judgment

is really a demand of all judgment made upon itself, a demand which grows out of the fact that judgment is the controlling factor in a self-maintaining experience. Unconscious utility is perhaps the chief principle of selection in primitive thinking, but this demand for self-maintaining infallibility is as much more than unconscious utility as self-consciousness is more than an emotion of pleasantness or unpleasantness. The notion of an infallible judgment is that of one in which the ordinary tentative quality of the conjunction of fact and value is modified by the consciousness of an unerring technique. It is not the notion of a mind for which all questions are already answered, so much as that of a judgment for which all real questions are answerable, because the data of thought are known and the method of procedure is familiar. The ideal judgment is a postulate, a motor attitude, a pilot star. It is a demand that judgment possess a perfect technique and that this be not in any particular case violated or dethroned. If I fail to judge aright, I suffer not only inconvenience, pain, or death, but also the chagrin of incompetence in my own eyes. The individual recognizes not only that he would better judge aright, but also that he ought to do so. The reflective imperative is as categorical in the theoretic sphere as in the practical, and utilitarian sanctions are as hypothetical here as there.

With this introduction let us take, as the first form of constitutive consistency, objectivity. By this we mean permanence and coherence (both of them forms of continuity) in that which controls action. There are other connotations in the term, to be sure, but as a constitutive form of experience this seems to be its meaning. Your genuine object must abide from hour to hour; it must be the same for others as for me; it must harmonize and cohere with all other objects in the total content of experience. In this sense, objectivity spells publicity in the content of experience; and publicity is continuity. In both the child and the race the demand for continuity shows itself in assimilation. Contents of experience are assimilated to the self-type, as we have seen, before they are distinguished from the self as things. This is because objectivity depends for its origin upon what

might be called a social technique of judgment. All knowledge is at first anthropomorphic. Very slowly we have learned that trees do not feel, that the wind does not choose, that the sky has no passions, and that rivers flow indifferent to human good and ill. We have learned that things do not behave, like selves, in capricious and unpredictable ways. The general attitude of expecting certain events when other events occur, the attitude described in the mechanical conception of the world, develops slowly. In contrast to it the attitude of hesitation and uncertainty is formulated in the conception of free and teleological self-determination. Both are in the end objective, but objects marked by teleological behavior are unique in this, that among them we class ourselves. Neither is objective until a technique of judgment has developed so far as to free the mind from the practice of assimilating all things to a vague wilfulness.

The difference between the psychical and the physical is primarily a difference between two modes of behavior in objects, not a difference between an order of existence called subjective, which is absolutely distinct and independent, and another order called objective. For the purposes of the plain man, it is necessary to distinguish between the world, including his own body, and the mind. He is often more interested to know what is passing in the 'mind' of a man than to know what the latter is actually doing in the world. So the plain man constructs a system of ideas, images, purposes, impulses, motives, and dispositions behind the visible exterior of his fellow. He finds such a pictured world available for purposes of control in dealing with his fellow. So also the psychologist constructs a mind inside the organism, dependent on the nervous system and isolated by absolute chasms from other minds in other bodies. The mind is an instrument or tool for perfecting the organic life, each mental construct having its function in facilitating the process of adjustment. So also it is to the interest of the physiologist to conceive mental events as mere accompaniments or effects of neural events. But no one of these ways of representing mind can be taken as valid beyond the spheres of experience within which they are constructed. When we ask for the ultimate and universal relation of mind

and body, we are obliged to begin by rejecting the ordinary causal theories of interactionism, parallelism, and automatism, while at the same time recognizing their relative validities for the plain man, the psychologist, and the physiologist. The idea of two absolutely different worlds, the one material and the other mental, is metaphysically indefensible. Continuity is indispensable in a world. Mind and body cannot be two absolutely discrete contents in experience and be equally objective. When so conceived, the former ceases to be objective at all; and this is one explanation of the subjective character of most modern idealism. We have followed Descartes in regarding these two as discrete. When continuity ceases between the parts of the world, subjectivism results.

It is, of course, one of the laws of consistent experience that its objects be isolated, individual, and permanent. The object of interest and attention is always unique. If it be a social or shareable thing and possess continuity, it is relatively independent of other objects, a 'this thing' distinct from 'the rest of the world.' To the plain man this may seem an exception to the law that continuity is essential to objectivity; but no mere object is absolute. The next wave of sensory impulse disturbs the equilibrium of the moment and a new object is demanded. Experience contains a manifold of moments, each of which is from some point of view unique. Within each moment a dualism of retrospective and prospective factors is present, datum and ideatum, fact and value. Each object contains both, and each corresponds thus to the activities of the continuous self. The content of the world is a manifold of correspondences between self and the rest of the world. Meanings and values are links connecting fact with fact in the continuous context of existence. Contents are not to be conceived as absolute individuals, held together by some synthetic activity. They are rather to be regarded as an individual composed of individuals, a single world which is nevertheless manifold. Discreteness without continuity is chaos; continuity without discreteness, an empty attitude.

In both its discreteness and its continuity, the self gets its own from its world. In its practical, common-sense aspect, the latter

is manifold, but in this aspect it corresponds to the interests and needs of the self. Its law may be set down as $x + 1$, and its extent is unlimited. We may even define manifoldness as mere plurality, divesting our minds of all subtlety in thinking of it, and still regard it as a form of consistency, as law of contents. It is the consistency of sensation, the need of variety, the individuality of parts. There are, however, two sorts of manifolds. Those formed according to the law $x + 1$ are on their surface discontinuous, like the series of whole numbers which correspond to them. Their elements are irreducible, while between any two elements there exists an infinite number of moments which do not belong to these manifolds. The transitions from element to element are not obvious. In taking an interest in any one, we ought on the face of it to exclude ourselves from all others. Such is the world as a mere manifold.

Nevertheless, the flight from element to element is actual. The transitions are as familiar as the elements. The latter cannot be absolutely individual, and we set ourselves the task of increasing the elements to fill in the gaps and discover the missing links. This is the task of discovering continuity in discreteness, corresponding to the continuity of the self. We need another sort of manifold, one of such nature that, in being interested in any one of its parts, we do not sacrifice the rest, one of such nature that the dividing element of interest belongs to either part and to both. This is the continuous manifold.

In the words of Poincaré: "A system of elements will form a continuum if we can pass from any one of them to any other by a series of consecutive elements such that each is indistinguishable from the preceding."[1] In a straight line, for example, a single point divides the whole into two parts such that every point in one part lies outside the other part, the dividing point may be assigned to either part, and both the line as a whole and all its parts are infinitely divisible. Between the elements of the system of whole numbers there are points which do not fall within the system, points which are not themselves whole numbers. This system is therefore a discontinuous manifold. If these were the

[1] *Science and Hypothesis*, G. B. Halstead's tr., 1905, p. 26.

only real numbers, it would follow that only those points on a straight line whose coördinates are whole numbers are real; and, in that case, the circle inscribed in a square and the diagonal of the square would not really intersect. Hence the system of real numbers described by Dedekind contains not only all whole numbers, but also all irrational or incommensurable numbers, and the real number system is continuous.

Every law of causation illustrates the necessity of continuity in discreteness. The antecedent, *C*, and the consequent, *E*, must be identical so far as to make the transition from one to the other continuous, but they cannot be really identical and present a genuine sequence at all. Again, how can one body act on another body at a distance? Newton held it to be impossible, and hence his corpuscular theory of light. On the other hand, how can two bodies act on each other if they are continuous? In the physical concept of contact, these two demands meet; but the mystery of the process grows on one until the word contact appears a name for our ignorance, unless we steady ourselves by the reflection that contact is consistent with the self, while neither absolute continuity nor absolute discreteness is so. The question of the reality of solids is a case in point. If real, they must be internally continuous and hence absolutely rigid. All actual solids are discrete with interstices between the parts; but then, what of the parts? Are there any irreducible parts of matter? Certainly atoms do not at present appear to be impenetrable. The arrow-argument of Zeno and others to prove that motion is not real presents the same sort of a problem. We might further ask whether force, ether, space, time, energy are continuous; and, if not, whether they are discrete. The question as to the existence of other minds, and the question as to the relation of the body to the mind, reduce at last to the old alternative of continuity and discreteness. We need unity, but also variety enough to save us from boredom and unconsciousness. We crave justice, but know that if absolute justice were once established so as to be the natural law of human action, moral experience would cease. At one time, the ideal of scientific exactness engrosses the mind and all effort is devoted to the manyness of the many. At

another, we crave system and classification, the reduction of manifolds to single terms, the arrangement of the many in ordered series. The more continuity we find in nature, the greater the manifoldness of the ends to which she contributes in human experience, the greater our freedom. The more unresolved discreteness there remains in nature, the fewer the ends to which the will is limited. And yet, in a world of dead monotony and sameness, a world without problems, the will would languish. There would be no more thrills and excitement.

If we look for other instances of the demand for consistency and self-maintenance among the constitutive forms of the world, perhaps the most obvious is that existence at large is a continuous manifold, is in fact no other than the self of the world as a whole. Discontinuous existence and discontinuous self are self-contradictory terms. The judging function demands this continuity as its necessary background. Existence has no gaps or chasms. The effort to think of a time when there was nothing, or a time when there will be nothing, involves the same weird paradox as the effort to think of any particular thing, say this mountain, or this government, or this mind, as nothing or coming from nothing. Nothing and non-being, as St. Augustine contends, prove to be something, namely, the absence of the particular thing whose negation we strive to represent. 'In the beginning God created all things out of nothing'; but the nothing *was*, it existed. What each thing really is, it is unconditionally, continuously.[1]

Things, on the other hand, are superficially discrete. Each is an irreducible unit. Science tries to discover in this discontinuous world of things some principle of continuity. There must be such, as in any other case all the continuity would be subjective (a mark of self); all the discontinuity would be objective,

[1] An interesting application of the principle that, from its own point of view, everything is continuous, is to be found in Lincoln's Inaugural Address of March 4, 1861. Speaking of the perpetuity of the Union he says: "Perpetuity is implied, if not expressed, in the fundamental law of all national governments. It is safe to assert that no government proper ever had a provision in its organic law for its own termination. Continue to execute all the express provisions of our National Constitution and the Union will endure forever — it being impossible to destroy it except by some action not provided for in the instrument itself."

and their union in experience an absolute mystery. We relate object to object in continuous time, space, likeness, genesis, causation, ownership, purpose, energy, ether, government, morality, beauty, and so on, to fill in the gaps. Existence must have a continuous content corresponding to its own continuity. Herein lies the assurance of science and the motive of all her efforts to understand. To the metaphysically inclined, on the other hand, existence must somehow possess all the variety of its content; and the effort to derive a manifold world from a barren existence has failed again and again. Back of all science and all metaphysics is the certainty that every object of thought must satisfy the paradoxical demand of consistency, viz., that it be both continuous with all other objects of thought and yet distinct and separate from them. The attention lives in rhythms to which the objective manifold corresponds, but beneath attention is the universe of immediate existence. It continues in the vague self-awareness of feeling, when attention shifts. When the light of attention wanes, things pass into a realm of shades where they await a resurrection. The one abides, the many come and go. The many, as functions of past activities and present organization, are given; the one is prospective and demanded. Continuity is the assimilation of the object to self, the projected shadow of the self; discreteness is a function of organization and technique. The mind is not satisfied with either way of taking objects. From the manifold facts of the world, we pass to that continuous system of laws or principles in which and for which facts exist. *Fürsichsein* is continuous, *Füranderssein* is discrete. From its own standpoint everything is continuous. It is self who sings:

> "They reckon ill who leave me out;
> When me they fly, I am the wings;
> I am the doubter and the doubt,
> And I the hymn the Brahmin sings."

Discreteness arises from that impersonal technique which distinguishes science from speculation and that which is from that which is to be.

But we have seen that mere discreteness is mere confusion. Self-maintenance does not demand that. Accordingly, all real

manifolds are ordered, and we shall do well to give some further attention here to the concept of order. Order is the form of constitutive consistency which makes those substitutions of contents possible upon which the complex experience of man and all the higher attainments of mind depend. Order and substitution constitute intelligibility and intelligence. Order is not necessary to the concept of manifoldness, but a manifold without order cannot exist. Even the contents of a dump-heap must take some order. Orders are of many kinds, one of the most striking and fundamental being that which existence itself takes on in reflection. We have seen that existence is a continuous manifold, infinitely divisible and of such nature that any point in it divides the whole into two mutually exclusive parts. Its order is always simple; there is but one way to pass from any point in it to any other, namely, forward. No point can occupy more than one position here, and no points or parts can be interchanged. Each point has only the significance of its place before its successors and after its predecessors in the manifold. Of course this order is time. If we make the succession of moments in time correspond to some uniform movement in space, we establish a useful periodicity and measure of what we call the same or equal periods of time. Really, no two periods are the same, however useful it may be by social agreement to so regard them. When we represent time by a line, by the uniform flow of water in a stream or a fountain, by the motion of the hands round the dial of a clock, by the flow of sand in an hour-glass, by the movement of a shadow over a plane, and so on, such correspondences make possible certain conventional substitutions of vast importance. Immediate experience gives us no means of measuring time, as the present of immediate experience may be a minute, a day, a decade, or ten thousand years, according to the conation which gives unity to the thought. The measurement of time rests upon the convention of letting the uniform movement of a body correspond to the passing of time, and this also is a form of self-maintenance or consistency.

Just as existence takes on the time order, so things as independent contents take on a space order. Time order, as we have

seen, is not reversible; it is not necessary to the universality of existence that it should be so. The universality of an object, however, implies a reversible order of infinite directions. We must be able to approach and leave an object from an infinite number of other objects or contents. This means direction, position, distance (relative terms, all of them),—in short, space. The space manifold is primarily an order merely. As a social, public thing, it becomes a filler-in of gaps, a continuum. Time is a simple order, but an infinite number of ways leads from point to point in space. A single point suffices to divide the temporal order, while only a line can be so divided in space. A line will always divide a surface and a surface a solid, but there is nothing in time to correspond to these determinations.

All orders seem to be alike in one important respect, namely, they can always be increased by the addition of one more unit to the manifold, and the method of this increase is for each order constant. By a certain determination, time becomes a minute, by another, a second, and so on, and these determinations are always possible. They are not negations, as Spinoza would have said, so much as similar transformations, in the mathematical sense of the word. The generative formula, $x + 1$, may be said to be the law of all ordered series, the key and the symbol of intelligence, provided it be understood that 1 is related to x by a similar transformation.

The process of ordering objects in classes according to likenesses and differences, putting the classes into subsumptive relations of genera and species, is another of the fundamental forms of constitutive consistency. Each class as a whole corresponds to each of its members, so that we may do with each what we can do with every other, and do it far more conveniently than, without the classification, would have been possible. What, then, after so many centuries, is the relation of the universal to the particular? *Universalia ante rem, universalia post rem, universalia in re*, realism, nominalism, conceptualism, modified realism, modified nominalism, etc., — how the phrases awaken echoes of long ago! How heroically they were raised there, the battle cries of legions of devout men! How our man-

ners and institutions have been affected by them! The mediæval church strove nobly to make its relation to its members one of correspondence. Strange that she should have conceived the relation so vaguely! Time is related to this moment, tree to this tree, by a transformation made possible by the organization of reflective experience and realized in judgment and action. These correspondences make possible the substitutions which economize the energy and conserve the freedom of the individual.

Whenever a given manifold has been made to correspond to the series of rational numbers, it is possible to use the numbers in either of three fundamental senses, the ordinal, the cardinal, and the multiplicative. Each number defines the place of its corresponding element in the series as a whole, the extent of the series up to that point and the number of times a given unit is taken to produce the series. It is always possible, by taking any one element as a conventional unit, to measure the entire manifold by it. All measurement rests upon conventional standards chosen for their convenience. This completes the elements of quantity and shows the method of its determination.

But a manifold may vary from point to point in either of two ways. The variations may obey a definite law, or they may not. In the former case, we can calculate the quantity of variation from a given standard at any given point in the manifold, and this gives us degree of intensity and extension. This is the type of all ordered physical manifolds. These are of such a nature that transitions from point to point are mediated by a series of intermediate points, none of which is distinguishable from its predecessor. Degree A may be indistinguishable from degree B, and B indistinguishable from C, while degree A is clearly distinguishable from degree C. In such cases $A = B$, and $B = C$, but $A <$ or $> C$. The contradiction between these judgments and the law that things which are equal to the same thing are equal to each other, is the chief motive for constructing the *continua* of quantitative science.

Quantity is expressed by the cardinal function of numbers; degree, by their ordinal function. Quantity and degree differ in that a quantity can be divided into equal parts which can be

recombined in any order we please without changing the original quantity, while the order of the parts of a manifold which varies regularly in degree cannot be changed without destroying the original order entirely.

Two or more things are said to be equal, when they may be substituted for each other at will, when they perform the same functions. Evidently they are never equal in all respects, as in that case they would not be two things at all, but would be identically the same thing. Things are equal only for some purpose, and from some particular point of view. For the sake of clearness, the term is usually confined to quantitative substitutions and used figuratively in other cases.

We may define substitution by observing that we can substitute whenever we can do with the elements of one manifold what we have done with the elements of another, whenever the one will serve in the fulfillment of the same purpose as the other. The letters of the alphabet may be combined in ways corresponding to the combinations of sounds in speech. One may arrange tickets to correspond to the seats of an auditorium, and may then do anything in the distribution of the tickets which might have been done in the distribution of seats, and do it far more conveniently. A ledger record corresponds to the incidents of a day's business ; and for certain purposes the record is an economical substitute of great value. Science arranges phenomena of nature and history in groups according to the presence or absence of certain characters, and proceeds to substitute these characters for the members of the groups. Of any object we predicate all the characters of its group. Heat, light, electricity, gravity, elasticity, etc., are forms of motion, and we proceed to predicate of each whatever we know of motion. Science may learn to resolve one of these forms into another *ad libitum*, and there will then remain nothing to be accomplished in the way of establishing correspondences and discovering constitutive consistency.

In general, the ideal of the rational movement in modern philosophy was to be able to start from any content of experience, and, following its implications as cues, to reconstruct reality.

Such an ideal presupposes unbroken continuity in nature and a knowledge of the relations of the continuous to the manifold everywhere. It assumes the truth of Hegel's dictum that the real is rational. It would lead us afield to discuss this dictum here. From the standpoint of this paper, the rationalist's ideal is merely an ideal, a pilot star. Reality is essentially a self-*maintaining* system, not a finished and completed thing. Within it conflict and discrepancy are always to be found, and it is not conceivable that the work of reorganization and readjustment should at any time be complete. In some of its aspects, in view of its necessary manifoldness, the world is multitudinous. The rationalist's world is no more needed by the mind than the empiricist's. It is as essential to the maintenance of reflective experience that the world should be discrete as that it should be continuous. Whether we insist, with the radical empiricists, that discreteness is fundamental and continuity derived, or, with the idealists, that continuity is fundamental and discreteness derived, in either case we miss the truth which develops from a critical study of reflective experience, the truth of consistency, that the one and the many are in the same sense real.

A word further needs to be added regarding causation. It has been said that this is a volitional category, but there are aspects of the causal order which are presentative and constitutive rather than purposive. We have already found a correspondence between cause and effect such as the constitutive law of continuity in discreteness would lead us to expect. This is formulated in the law of equivalence, and is a structural feature of the world of changing objects. Moreover, the temporal aspect of the causal relation formulated in the law of invariable sequence is constitutive rather than purposive, a demand of thought and a form of continuity. Causal relations are no more given in experience than objects are given. The sequences in the world present gaps and chasms which the mind is constrained to bridge by causal relationships. Change is as characteristic of the world as permanence; indeed, it is more characteristic, and causation is only the consistency of change. The conception of nature as a closed system of causal processes and that other conception, to

which this in connection with the law of equivalence gives rise, that the sum of all the energies of the universe is a constant, are rationalistic formulæ which are not necessary to the conception of an objective world. The law of equivalence is necessary; and it is, moreover, a generalization from experience. But the view of nature as a closed system, the dogma of conservation which rests upon it, and also the law of equivalence, are not laws in the strict sense of the word and do not rest upon experience. They are useful postulates or premises of certain branches of speculative physics, and are rather purposive than constitutive. The purposive aspects of the causal nexus and of nature in general can best be treated in another connection. They have to do with the world as a whole, with the world as an individual, and raise the question whether the world is infinite. In what sense, then, is infinitude a constitutive form of consistency?

The infinite is defined in two ways in both mathematics and philosophy. Negatively and empirically, it is the unending, the unlimited. In this sense, it is not fundamentally distinct from the finite, it is an unending finite. The other is Dedekind's definition. "A system is said to be infinite when it is similar to a proper part of itself: in the contrary case it is said to be a finite system." "The systems R, S are said to be similar when there exists such a similar transformation φ of S that $\varphi(S) = R$." According to this definition, all manifolds produced according to the formula $x + 1$ are infinite. Upon any series of rational numbers beginning with one and containing n terms, we can always perform the operation indicated in the formula $+ 1$ so that a new member of the series results. The series is therefore infinite, because it is similar to a proper part of itself. The system of rational numbers has no last term. Moreover, we can construct infinite systems of rational numbers by simply transforming the rational system as a whole into similar systems.

Space and time are thus infinite. They are *continua* of such nature that beyond any limit you please a further space and time are implied. Let the unit be what it may, the operation $+ 1$ or $\times 2$ can always be performed on any series or sum of such units and the limits of space and time be thereby extended. In

the same way, space and time are infinitely divisible. The operation $\times \frac{1}{2}$ is always possible, no matter how far the process of bisection may have been carried.

The same is true of series of similar objects; there is always room for one more in the series. There may always be another man, another tree, or another star, just as there may always be another whole number or another unit of space or time. The manifold objects of the world thus of themselves fall into an infinitude of infinite series with infinite possible relations of correspondence between them. The work of the intellect in discovering such correspondences is not likely to be finished inside the life-time of any particular generation. Indeed, there will always remain as much yet to be done as at the moment when human reflection began.

We may make similar observations as to causal series. The connotation of any causal law is finite; its denotation is infinite. There may always be another transformation such as that described. The process φ in Dedekind's formula is always possible. The world thus appears to be a self-transforming, self-maintaining system, which is always similar to a proper part of itself; and this is one of the deeper meanings of the law of consistency. In the case of ordered manifolds of the reversible type, consistency becomes infinity, and in the non-reversible type, eternity. The infinite, the infinitesimal, and the eternal are simply the 'what,' the prospective reference of the particular. Prospective space and time must consist with the orders with which experience makes us familar, and upon this basis we construct the definitions, axioms, and operations of geometry and number. In all the natural sciences of the present day, great emphasis is put upon exactness, meaning by the term a complete enumeration of the conditions under which a given law is valid, that is to say, a complete definition of the transformation φ of Dedekind's formula. This being given, the law holds with the same uniformity and infinite applicability as the axioms and postulates of geometry. Thus we construct 'exact' sciences, and thus we may say that what a single object and the world of objects really are, they are eternally and immutably. The prin-

ciples of the indestructibility of matter and the conservation of force and energy express the necessity that the world of objects be, in this sense, infinite and eternal. In the distinction between 'this' and 'the rest of the world,' the latter is always infinite in the sense in which the term has been defined; and it may mean either the future and other existence of 'this' or the existence of other contents. No object is given as an object, and just as little is the world as a whole so given. They are always to be found, to pass hither from a realm of gray abstraction and anticipation to warm and actual immediacy. Their infinity lies in the fact that they always may thus pass hither.

We have now developed the concept of constitutive consistency and found it to contain three demands, three necessary forms of the objective contents of experience. These we may name continuity, discreteness or exactness, and completeness. The first has proved to be order, and all genuine orders seem to sustain what might be called relations of one to one correspondence to their members. Each order appears to be similar to a proper part of itself. We have found that orders correspond in this fashion to each other. All thinking is a process of establishing correspondences. What the intellect seeks is not identities and differences, as scholastic logicians held, but correspondences; and we need this type of relationships, because it makes possible certain processes of substitution which economize the attention and energy of the individual in the further activities of life. Completeness or individuality is such a relation of continuity to discreteness in the object of thought as to make the latter self-maintaining and infinite. Completeness is continuity in discreteness of the type we have described as infinite. A complete thing is not an object cut off and isolated, not the 'flower in the crannied wall,' 'root and all and all in all,' but rather a complex which involves no self-destructive internal discord. Complete space is not to be conceived as all the space within a given or conceivable limit,—that is self-contradictory,—but rather such a space experience as may continue without let or hindrance from within. Complete space is Euclidian, it is also non-Euclidean; it is both tri-dimensional and hyper-dimensional. Complete space

is any space possessing such internal harmony as to be infinite, that is, similar to a proper part of itself.

Similarly, complete classification or description is not to be conceived as such an enumeration of attributes and relations as shall leave none remaining to be mentioned. That is as self-contradictory a conception as an all-comprehending space. It is rather a classification based on continuous principles of order such that further characterization may be reached by a process like the similar transformation of which we have spoken. Completeness, the conception of objects and the world as wholes, is in some of its aspects a purposive category, a demand for economy in thought, for simplicity in the conditions of further activity.

There are certain other orders such as those of economics, ethics, æsthetics, and metaphysics, which are not constitutive as continuity, discreteness, and completeness are, orders which are predominately practical or purposive. To them we may return at another time.

G. A. TAWNEY.

DESCRIPTIVE AND NORMATIVE SCIENCES[1]

THE distinction between the descriptive and explanatory sciences, on the one hand, and the so-called 'normative' sciences or disciplines, on the other, though evident and even ultimate for common sense, has come to be a seriously puzzling problem for philosophy at the present day. Though in one sense as general as the problem of the relation between the real and the ideal, it also involves many special and technical questions, the discussion of which, though interesting and important, sometimes tends to obscure the main issue. In the present paper, the attempt will be made to deal with the problem from the point of view of methodology, the object being to see if it is not possible, even for those occupying quite different philosophical positions, to agree upon certain general principles that will help all concerned to avoid either the abstract dualism or the specious monism that too often characterizes such discussions.

For common sense the problem can hardly be said to exist at all, since the distinction between the real and the ideal seems self-evident. The real is simply that which *is*; the ideal, on the other hand, by definition implies at least some deviation from reality. It is what, from some point of view, *ought* to be, as opposed to what is. Hence, of course, we have sciences which deal with the real, like physics, chemistry, physiology, and psychology; while there are other so-called sciences, like logic, æsthetics, and ethics, which set up certain norms or standards. Thus stated, however, we have a dualism which even common sense and physical science are inclined to look askance at; and the first step in the direction of reflection is usually to hold that science, in the proper sense, deals with the real and only with the real, while the so-called 'normative' sciences or disciplines are more properly arts, the object of which is to attain certain ends that are by no means implied by reality as such.

[1] Read before the American Philosophical Association, at the New York meeting, December 27, 1906.

But the present tendencies of the descriptive and explanatory sciences themselves are calculated to force even common sense, however reluctant, from its original position. The physicist, the chemist, the physiologist, and the psychologist alike, — but especially the psychologist, who is more alive to the problem, — tell us that they by no means profess to give a complete account of concrete experience or reality, but only of experience regarded from a particular and necessarily abstract point of view. It will not even do to say that they deal with different parts of experience or fields of experience ; each representative of a special science is concerned with the whole of experience *so far as it is relevant* to his problem and capable of being dealt with by his methods. Scientific description is progressively technical, and therefore abstract, as the true problems and methods of the science in question gradually become more clearly defined. Moreover, no science of the real,— certainly no developed science,— is merely descriptive, in the narrower sense of the word ; it seeks to explain, *i. e.*, to determine the laws of orderly change from its own point of view. The laws discovered are always at once less and more than mere descriptions of the behavior of reality as such : less, because they describe real processes only from a technical, abstract point of view ; more, because they claim, or at least seek, universal validity. In truth, it is plain, when once clearly stated, that all scientific laws are what the modern logician would call ' hypothetical universals.' They do not state that the real process, in the particular case, did or ever will take place thus and so ; they rather state, in perfectly unambiguous terms, that *if* certain conditions are given, and *if* they are the only conditions present, certain results will follow. In fact, this is all that any universal principle can mean, if we keep within our brief.

Even when we take the factual or existential point of view, then, and inquire only what is, our developing science, whatever that may chance to be, will more and more take the form of a rational construction, and so become normative in this sense ; for, given fundamental assumptions, the procedure of reason is always immanently teleological. A principle like the conservation of

energy, for example, is much more than a mere generalization from experience. Physics has simply reached the point where all are perfectly agreed that, in so far as the world can be explained as a mechanical system, the law of the conservation of energy must hold. Whether it holds absolutely is quite another question, for that would imply that the mechanical explanation of the world is the ultimate one, and would make physics equivalent to metaphysics or ontology.

But is the factual method of dealing with experience the only method that can be called objective? Let us for the moment compare the procedure of structural psychology with that of logic or epistemology. The psychologist regards our mental life as a more or less continuous process, intimately connected with, if not causally related to, certain more obviously continuous physical and physiological processes, the latter, of course, being primarily those of the central nervous system. The inner like the outer process he regards as a series of events to be explained, the events being arbitrarily isolated stages of a process really or approximately continuous. But, in order to be able to deal effectively with these events of the inner life, it is highly convenient, if not necessary, to assume that the content of consciousness at any given time is analyzable into so-called 'conscious elements,' — and so the technical method is gradually developed. The problem thus becomes, now one as to mental content, now one as to sequence of states of consciousness; and these, together with the physical and physiological correlations involved, are all that concern us, so long as we maintain this technical point of view.

The accurate and highly significant results obtained more than justify this highly abstract procedure; but the tyro might sadly misinterpret these results, so laboriously obtained by the specialist. He might say: "If the psychologist has given us a fairly exhaustive account of the total content of consciousness, what more remains to be done, except to carry still further the investigations so prosperously begun?" But the very expression 'content of consciousness' is ambiguous; for to be in consciousness is not necessarily to be a particular fact or analyzable element in consciousness. The psychologist is giving us all that he pro-

fesses to give, an account of our mental life regarded as a series of events; but he has deliberately and scrupulously left out what, for the logician or epistemologist, is the all-important matter, viz., the meanings or rational implications of consciousness. Not facts, then, but meanings, are the subject-matter of epistemology; not causal connections, but rational implications are the matters to be investigated. And just as the so-called 'facts' of psychology are only arbitrarily isolated stages of a relatively continuous process, so the particular meanings of epistemology can only be understood as parts or members of a system of meanings.

As regards objectivity, then, there is plainly no advantage on the side of psychology as against logic or epistemology. Each is dealing with our real mental life, but each from its own technical and necessarily abstract point of view. But when we come to the matter of classification, an unexpected difficulty confronts us, if we accept the conventional distinction between descriptive and normative sciences. Structural psychology is undoubtedly a descriptive and explanatory science; but both description and explanation are from such a technical and deliberately abstract point of view, — the point of view of a highly developed science, — that the procedure of psychology might be termed, in this sense, normative as well. On the other hand, traditional formal logic has commonly been regarded as the typical normative science, except by those who have preferred to regard it as an art rather than as a science. But purely formal logic has lost much of its prestige, and what shall be done with modern logic, which has become transformed into theory of knowledge? Its procedure is in every way as business-like as that of psychology. It primarily seeks to explain what knowledge is and what it implies. But since it is concerned with the organization of knowledge, and since the organization of knowledge at any given stage of development is imperfect, it is bound to form the more or less definite conception of an ideal knowledge (proximate, if not ultimate), in which the antinomies which perplex us at present shall be resolved. Then we might say that modern logic is at once explanatory and normative; but this does not mean that there is

a logic that is explanatory and another logic that is normative, for the science is plainly one. Moreover, as knowledge develops in the direction of its ideal of organization, it becomes as a result more and more real. In spite of prepossessions to the contrary, this is a highly suggestive example, which goes to prove that, in some fields of investigation, at any rate, the real and the ideal tend to converge.

I am well aware that, in speaking of metaphysics from the methodological point of view, one must exercise more caution; for here we are confronted with two difficulties: (1) The question which has often been raised as to the relation between theory of knowledge and theory of reality; and (2) the evidently divergent tendencies of recent metaphysical theory. Even here, however, it seems to me that our present differences of opinion are not so hopeless as would at first appear.

Let us first consider the relation between epistemology and metaphysics. All are familiar with the accusation brought against English Neo-Hegelianism by Professor Pringle-Pattison and others, that these exponents of modern idealism have, without any warrant whatever, transformed theory of knowledge into theory of reality, and this to the great disadvantage of both disciplines. I have not the slightest wish, in the present paper, to attempt to vindicate any particular form of metaphysical theory; but it seems fair to ask ourselves whether this particular criticism has the cogency that it appeared to have twenty years ago. Indeed, the question is highly relevant to this discussion, for it really concerns pragmatism quite as much as modern idealism.

If we accept the antithesis of appearance and reality as final, as was practically done by Kant, — if we take his philosophy literally, — and has been done since by certain too orthodox followers of Kant, then, indeed, there is a great gulf fixed between epistemology and metaphysics. But the logic of the position is not far to seek. The sharp and definitive line of cleavage between epistemology and metaphysics merely corresponds to the absolute discrepancy assumed to exist between the world of possible experience and the world of things-in-themselves. If our knowl-

edge is not, in any true sense, knowledge of the real, then, of course, theory of knowledge has little or nothing to do with the theory of the ultimate real. But who holds such a position to-day? If one thing more than another characterizes philosophical speculation at the present time, it is the assumption, implicit or explicit, that experience and reality for all practical purposes are the same. Of course we do not all have the same conception of experience, — nobody would claim that, — but this constant and insistent reference to experience is a most hopeful sign; for it suggests that controversy may give way to coöperation when we come to understand each other better, and when the larger issues are more clearly and judicially defined. Now, in so far as we do keep to experience in our philosophical investigations, it seems to me *prima facie* impossible to make any sharp distinction between theory of knowledge and theory of reality. Even for Kant, of course, theory of knowledge was at the same time theory of the organic constitution of the world of possible experience.

Now, as to the second question: In how far do existing differences in metaphysical theory commit us to seriously divergent conclusions as to the position of metaphysics in the general classification of the sciences? More particularly, can we come to some working agreement as to whether metaphysics should be regarded as a science of the real or a science of the ideal? It seems fairer to put the question in this more general form; for, if we ask whether metaphysics is to be regarded as merely descriptive and explanatory, on the one hand, or merely normative, on the other, it is only too obvious that our original hard and fast division breaks down. We should probably have to answer that metaphysics was neither the one nor the other; but such an answer would not be particularly enlightening, for the larger and more significant question would remain. If we ask this larger and more significant question, — whether metaphysics is a science of the real or of the ideal, — the distinction again seems to break down, but with the opposite result; for it would seem that we can hardly deny that it is both. If metaphysics is a science at all, it must surely be a science of the real, since reality as such

is the very matter investigated. So far we would seem to be committed to substantial agreement. But is or is not metaphysics a science also of the ideal? If by ideal is here meant that which is opposed to the real, we may answer categorically that metaphysics is decidedly not, in that sense, a science of the ideal. The true problem, of course, is whether reality as such involves the ideal. There can be no question that for traditional idealism this is the logical conclusion of the method adopted, though this is far enough from saying that the real and the ideal can be mathematically equated or carelessly identified. In practice, we are driven to admit 'degrees of reality,' these corresponding to *degrees of achieved organization of experience*. In the case of pragmatism or realism, in their more recent forms, the problem would present much greater difficulties; but even in the case of those methods, I would venture to suggest that the conception of 'degrees of reality' is by no means without significance, so long as the reference is to concrete experience, and that the 'degrees of reality' here also correspond to degrees of achieved organization of experience. In short, while we explain the organization of experience so differently, the degree of that organization is for us all alike the important thing; and the organization of experience is always from the point of view of a proximate, even if not ultimate ideal, no matter how specifically that may be defined in terms of practical activity or the objective conditions that determine and limit practical activity. In the case of metaphysics, then, as in the case of all the other sciences considered, we find a science of the real developed in terms of its own immanent ideal.

Thus far, it will be remembered, we have considered but one of the so-called 'normative' sciences, viz., logic; but in that case the conventional distinction did not seem to hold. We found, indeed, that the science has an ideal side, but that this is not opposed to the reality of thought and experience, being rather developed with a view to the objectivity of experience as a whole. When we come to consider ethics, which is commonly regarded as the normative science *par excellence*, we might seem to be confronted with hopeless differences of opinion; for we have

popularly accredited moralists whose positions range all the way from the most reckless and impracticable idealism to a degree of naturalism that logically involves as its foundation nothing less than crass materialism. But here also it seems reasonable to hope that serious students of philosophy may come to an understanding with each other. Is it too much to say that the day of strictly *a priori* constructions of ethical theory is forever past? An ideal that stands opposed to reality, — *i. e.*, to reality in the true and ultimate sense, — is self-condemned; only when found to be immanent in reality itself can it command the respect of any thinking man. So far from ethics not being concerned with reality, it is audacious enough to investigate the most real thing in the world, viz., human conduct. The enterprise is a sobering one at best; but is it not inexcusable temerity to dogmatize about what is most vital, most concrete in experience, without ever seriously attempting to understand the objective relations involved?

To experience, then, ethics must assuredly go, — like all other sciences, for that matter, including metaphysics itself, — and, in dealing with experience, ethics will of course receive much help from other sciences. It must always be remembered, however, that these other sciences do not exhibit concrete experience, but rather experience interpreted, in each case, from a highly technical point of view. In its deference to other sciences, — *e. g.*, anthropology, social psychology, and sociology, — ethics must not forget to have a point of view of its own; otherwise it will not take even the first step toward becoming a science on its own account. What that point of view should be, need not, of course, be discussed here; but at any rate it is plain that the categories of ethics must be teleological, rather than quasi-mechanical. If all proximate ends are imperfectly rational purposes, the ultimate and truly rational end, whatever that may be, cannot be other than purposive itself.

But this very mention of an ultimate end of conduct, — if, indeed, we may speak of an ultimate end, — will at once suggest that here, at last, we have a science that is truly normative. We have seen, however, that all sciences, *qua* sciences, are in a sense normative, since they all interpret the organic unity of experi-

ence in terms of regulative ideals of their own. Yet they are all dealing with reality, and the ideals in question would be spurious, were they not potent means of dealing with reality on a comprehensive plan. Such, if I am not mistaken, is the case with ethics. It does not create its own material or subject-matter any more than do other sciences. It starts, or should start, with an exhaustive examination of actual human nature and the objective relations involved in society at its different stages of development. It does not ask why men should desire, and will, and act, any more than it asks why they should exist at all. Human desires and volitions, always involving some proximate purpose, are the matters to be investigated. But ethics, like theory of knowledge, must regard experience as, at any rate potentially, an organic whole; and conduct, like thought, becomes more truly itself in proportion to the degree of achieved organization. So there is presumably an ideal of conduct, as there is presumably an ideal of knowledge; but both are immanent in the process of experience itself. And, as we saw no way of drawing a hard and fast line between theory of knowledge and metaphysics, provided we accept experience as itself the real, so, for precisely the same reasons, it seems impossible to decide beforehand that ethics is, and must be, merely a natural science.

To conclude, then, it seems fair to say that there are no distinctively normative sciences, in the conventional sense of the term 'normative.' All sciences, *qua* sciences, have to do with the real, though each regards reality from a technical, and therefore more or less abstract, point of view, that becomes in a sense normative for its own procedure. Of course it does not follow that, since all sciences are abstract, they are all equally abstract; for the so-called 'exact sciences' are of necessity abstract in proportion to the degree of their exactness. One might say that this is the price they pay for their exactness, — a consideration which is frequently overlooked. On the other hand, these more abstract sciences are not necessarily on a lower plane than those which are relatively concrete; they only take this position when they put themselves in the wrong by making ontological assumptions. The true distinction between the so-called 'descriptive'

and the so-called 'normative' sciences is, that the former take the factual, the latter the teleological point of view, *i. e.*, the point of view of immanent rationality and purposiveness; but objectivity of treatment is as possible in the one case as in the other. In fact, we may go further, and claim that true objectivity, which necessarily concerns the coherence of experience as a whole, must always, in the end, be exhibited in teleological terms. Not that the teleological point of view can possibly supplant the factual in the procedure of the so-called 'exact sciences,' — the very suggestion is, of course, absurd, — but we must clearly recognize that the factual standpoint is far more abstract than the teleological standpoint, and in that proportion far less true to the nature of concrete experience. In a word, the difference is that between explaining experience from without and from within.

ERNEST ALBEE.

CORNELL UNIVERSITY.

PROCEEDINGS OF THE AMERICAN PHILOSOPHICAL ASSOCIATION: THE SIXTH ANNUAL MEETING, COLUMBIA UNIVERSITY, NEW YORK, DECEMBER 27 AND 28, 1906.

REPORT OF THE SECRETARY.

THE sixth annual meeting of the American Philosophical Association was held at Columbia University on December 27 and 28, 1906. At the business meeting it was voted to accept the invitation of Cornell University to hold the next annual meeting in Ithaca next December. A vote of thanks to the President and Trustees of Columbia University for their kind hospitality was heartily passed.

The Treasurer's report was submitted and approved, and is as follows:

JOHN GRIER HIBBEN, SECRETARY AND TREASURER, IN ACCOUNT WITH THE AMERICAN PHILOSOPHICAL ASSOCIATION.

Receipts.

Balance on hand at last report	$142.61
Received from dues	134.26
Total	$276.87

Expenses.

Proceedings of the Association	$19.00	
Printing and stationery	20.75	
Clerical aid	6.50	
Travelling expenses	3.80	
Stenographer	22.41	
Stamps and express	4.80	
Telegrams	.50	
Harvard smoker	21.67	
		$99.43
Balance on hand		177.44
Total		$276.87

The following were elected officers of the Association for the coming year: *President*, Professor H. N. Gardiner, of Smith College; *Vice-President*, Professor Ralph Barton Perry, of Harvard University; *Secretary-Treasurer*, Professor Frank Thilly, of Cornell University. Members of the Executive Committee for two years: Professor Herbert G. Lord, of Columbia University, and Professor Charles M. Bakewell, of Yale University. Member of the Executive Committee for one year: Professor Ernest Albee, of Cornell University.

The following were elected members of the Association: Dr. Roswell P. Angier, Yale Universtiy; Professor William Adams Brown, Union Theological Seminary; Dr. Morris R. Cohen, Columbia University; Professor Herbert E. Cushman, Tufts College; Professor W. B. Lane, Lynchburg, Va.; Professor Herbert Martin, New York Training School for Teachers; Professor Geo. H. Mead, Chicago University; Professor John M. Mecklin, Lafayette College; Dr. Benj. Rand, Harvard University; Dr. Frances H. Rousmaniere, Mt. Holyoke College; Mr. Walter L. Sheldon, Ethical Society of St. Louis; Professor Norman Smith, Princeton University; Professor E. D. Starbuck, University of Iowa; Professor Wm. James Taylor, Brooklyn Training School for Teachers.

The following are abstracts of the papers read at the sessions of the Association:

The Energies of Men. WILLIAM JAMES.

[The President's Address, which appears in full in this number (January, 1907) of the PHILOSOPHICAL REVIEW.]

Some Points of Contact Between Music and the Emotions. HALBERT HAINS BRITAN.

The philosophy of music is still proverbially vague and obscure. For the student of æsthetics, the *crux* of the whole problem concerns the content of this art. Does music find its real æsthetic value in arousing and stimulating the emotions, or is its function merely to please by the changing tones of melodic and harmonic progression? The literature on the subject, though scant, favors the latter hypothesis. The object of this

paper is to show that there are so many points of contact between music and the emotions that the so-called 'expressionist's' position is tenable. There are two aspects of the æsthetic study of music which must be kept clearly distinct. Music as an art has a tremendous impressiveness, due to the medium in which the musician expresses his ideas. Sounds are normally more exciting emotionally than color and form. The ultimate explanation of this 'dramatic' power of music, therefore, the source of its popularity and of its power over the mind, will be physiological and biological as well as psychological. Under this head will come pitch, rhythm in its primitive forms, the major and minor modes, and all those variations in intensity, tempo, and timbre which form the technique of musical expression. All these have power to influence the feeling consciousness. But, besides these elements, a musical composition shows those architectonic attributes which in the other arts are the criteria of their artistic excellence. Such, for example, are unity in thought and design, strength and grace in expression, and originality and significance in the musical thought expressed. Here the problem of the emotional content is identical with the same problem in literature or in painting. There are two principal considerations which serve to make all of these factors in music of great emotional significance. In the first place, the conceptual vagueness of the organic factors and of all musical ideas serves to heighten the feeling accompaniment. They are not expressive but suggestive; hence they allow a free play of the imagination and of association controlled by emotional congruity. Then again, and this is a point of extreme importance, these factors or symbolic elements are not static, but are all inherently and unalterably dynamic. They are fitted, therefore, as are the symbols of no other art, to accord with the emotional phases of consciousness. Because they are dynamic and not static, they compel an answering response in that most motile aspect of consciousness, the emotions.

The Concreteness of Thought. GEORGE H. SABINE.

Philosophical thinkers are now generally agreed that only experience is real, and this only in proportion as it is concrete;

but there are great differences between current conceptions of concrete experience and of the relation of thought to the concrete. An examination of concrete experience shows that it possesses the character of immediacy, but that the immediate must be further qualified as the individual, as that which possesses the richest possible content. Individuality, however, implies a position in an organized system, for an individual is constituted not by isolation but by functional relation to a systematic whole. The conception of organic unity is equally a postulate of generalizing thought, for true generalization must reach real synthetic principles. It appears, therefore, that the attempt to define the concrete cannot stop short of an experience in which universality and individuality are at once completely satisfied, an experience in which perfect integration is combined with perfect differentiation. Only the Absolute, therefore, is fully concrete, and for finite experience the Absolute can be only an ideal of perfected rationality. Such an ideal, however, is organic to our actual experience because it is an ideal which we may progressively realize. The concreteness which we attribute to actual experience rests on the fact that this experience is always partially organized. If this were not the case, thought could never find a problem, for logical organization always takes its rise within a potential system. Thought, therefore, is to be conceived as a function of concrete rationality by which experience is at once universalized and individualized; it is the means by which we realize in finite experience some measure of that ideally rational experience which is truth. The abstractness which characterizes conceptual thinking in general, and scientific procedure especially, is always a means to the attainment of concrete reasonableness. Abstraction is merely the simplification of a problem, which remains to be solved by the logical unification of the experience. The abstract sciences get their validity solely from the fact that they contribute to the rationality of experience as a whole. If this conception of thought is correct, it follows: (1) that the notion of a pure experience must be given up; (2) that no distinction in principle can be made between reflective and constitutive thought; (3) that reality is to be conceived not as

pure experience, but as the ideally rational experience which is the goal of thought.

The Nature of Explanation. WALTER T. MARVIN.

Explanation is an analysis of a whole into parts, or of a complexity into elements that are simpler and whose relations are simpler. Four processses are involved in the growth of information: new sensations, association, analytic attention, and comparison. Of these, the two latter are preëminently the cognitive processes; that is to say, analysis of the apprehended content, together with comparison of the elements, is the special work of knowledge. Analysis of the content of apprehension finds these terms and relations, and judgment may be defined as the assertion of a relation between terms. Thus explanation differs from the two other stages of knowledge merely in thoroughness. Two distinct processes are denoted by the term analysis in the definition given above: (1) Substitution of one content for another, which seems to us a better or truer presentation or representation of it. Such substitution is employed at various stages and in many forms; *e. g.*, in the preference for the content as focused in attention; in the apprehension of the standard form of an object instead of its appearance in perspective, at a distance, etc.; in the substitution of the object as seen under the microscope for it as seen by the naked eye; finally, in the substitution of the abstract entities and symbols of physical and chemical speculation for the objects and events as usually perceived. The work of explanation, however, lies properly within the content selected, be it a substituted one or not. (2) Analysis proper is the work of analytic attention. (*a*) What is meant by the term 'simple,' and are there 'absolute simples'? By simple is meant the product of analytic attention; and the fact that this analysis, as it proceeds, meets ever increasing difficulty indicates real limits (on whose borders we seem to be working) to such analysis, *i. e.*, the absolute simple. (*b*) We have indicated in the definition two distinct kinds of explanation: First, analysis of whole in parts; secondly, of complexities into their elements. The first leads to some form of atomic hypothesis; the second, to abstract general laws. Of atomic hypotheses, again, there are two distinct types:

First, where the part retains enough characteristics to be a perceivable entity, thinkable as existing independently or apart from the compound, *e. g.*, the blood corpuscle; second, where so much has been abstracted from the entity that we could not (from what we know of human perception) regard it as perceivable, *e. g.*, mass particle, the ether, etc. Hence, if we mean by existent that which admits of possible perception, such abstract entities do not exist, or, at any rate, exist only in the broader sense in which any abstraction (*e. g.*, red, weight, numerals, etc.) may be said to exist. There is danger in physical and chemical science of surreptitiously implying that abstract entities have characteristics that would make them perceivable, though such characters are denied them by definition. In the broad sense of the term symbolic, such entities are only symbols. The analysis of complexities into elements gives us abstract general laws. As all elements whatsoever have their relations, the field of these laws includes all qualities, whether (so-called) primary or secondary. The distinction between these two types of quality or property is the extensity and other scientific value of the relations obtaining between them. All explanation is description, and its ideal is *economic* description (Avenarius). Its entities and abstracted properties are to be thought of not as existing apart from or behind the concrete, but merely as points in the concrete upon which analytic attention has been focused. Atomism, as a theory of real existence, has its definite limitations, *i. e.*, possible perception. Atomism, however, as a methodological instrument, may proceed to abstract entities.

A New Form of the Syllogistic Canon. JOHN GRIER HIBBEN.

[On account of the technical character of the subject, no abstract of this paper has been furnished. It will, however, be published in full in a later number of the REVIEW.]

The Aims and Results of the Society for Psychical Research. J. H. HYSLOP.

[No abstract furnished.]

The View that Reality is Control. GUY A. TAWNEY.

(I) In the world of thought, reality is said to be that which controls in the further activities of experience. This is instru-

mental idealism. Reality is made of no other stuff than valid judgments. Judgment is a process through which reality evolves. Objection is made that this is subjectivism, because the real becomes a mental process and product. Instrumental idealism replies that the subjective is the unreal; that it is the uncertain and the false, that which is not available for control. The idealist does not reduce reality to terms of uncertainty and error, and from his standpoint the objection does not hold. Stated generally, the judgment, that judgment is a controlling factor in the evolution of experience, is itself controlling and real. Judgment is therefore no mere subjective mental state. But the objector returns and asks, What of the judgment that the judgment that the judgment *ad infinitum* is valid? There must always be a judgment, the last member of the series up to the present, which is still uncertain, untested. There must be a realm of uncertainty and possible error, which is, but is not real. That which controls in this logical sense is always objective, but the real is vastly more than the objective. (II) Control in the world of action is usually conceived negatively as external limitation to activity. Such characterizations of the real as 'resistance to muscular effort,' 'limitation of activity,' 'determination by negation,' 'uncontrollableness,' imply that the real is a sort of straightjacket of the mind. It was before sentience was and abides when sentience ceases. It is the working idea (1) of plain practical men, (2) of biology, (3) of most psychology, (4) of natural science, (5) of the utilitarian type of epistemological theories, (6) of realistic epistemology in general. Objections to it are (1) that it makes reality unknowable, a thing-in-itself which never enters into the content of knowledge; (2) that it makes the world of knowledge phenomenal and even subjective; (3) that it presupposes a positive control opposed to the negative limitation of activity and exercised by the agent of the activity, the subject, or ego, or self. Nevertheless the subject or agent is by this definition unreal. The activity is set over against the control. This dualism is clearly stated in Baldwin's doctrine of 'subjective' and 'outer controls.' This dualism of controls is Kantian so far as it goes. It leads, in some, to the position that

the real subject of every judgment is outside the mind, while all that is predicated of it is inside the mind. The question how the one can refer to the other at all is unsolvable, and this is a *reductio ad absurdum* of the dualism. In any case, that which controls in the world of action is always objective, but implies much more which must be said to belong to the real world. (III) Control in the world of immediacy. Here the real is determined by the free selection of a subject, ego, soul, or spirit. It has both a positive and a negative side,—a concentration upon what satisfies and withdrawal from what does not satisfy. By means of 'love' and 'will,' we reach a point to which thought unaided cannot attain. The view is strong where the others are weak. But it is to be objected (1) that it acknowledges the existence of something (called illusion, or evil, or negation, etc.) which is yet not real; (2) that its reality is what we usually mean by nothing, or reality at large; (3) that it is, from an ethical viewpoint, a form of self-indulgence which may become unmanly and immoral. Once more we are dealing with what for reflection must be objective and given, the datum of judgment. But it does not exhaust the real. (IV) Appeal might be made to social control; but this cannot render the views discussed above more tenable, because the social character of the object of knowledge is presupposed by them. That which controls is still the objective only, and cannot be said to be equivalent to the real.

The Ugly Infinite and the Good-For-Nothing Absolute. CHARLES M. BAKEWELL.

Ever since philosophy began to emerge from the hylozoic age and to free itself from the bondage of picture making, it has been pursued by an antinomy which haunts it still, the antinomy of the infinite and the absolute. By infinite is here meant the boundless, the ἄπειρον, 'the ever-not quite,' the endless regress, which is implied in empiricism, as the idealist views it; and by the Absolute, the fixed and definite and final, whether as standard of reference, scale of worth, or world of meaning, which is the flaw in idealism as viewed by empiricism. It is not too much to say that most of the discussions of fundamental problems in

philosophy center in this antinomy, and that the chief effort of philosophers of subsequent times has been to discover a way of solving it. Moreover, when, with respect to any problem, one attempts, as is customary, to dichotomise philosophers, the principle on which the division is based turns on the relative importance assigned to one or the other side of this antinomy. When philosophical discussions wax polemical, as occasionally they will, then one's opponent is supposed to have embraced simply one side of the antinomy, while blindly ignoring, or shamefully belittling, the reasons which make for the other side. This granted, the logical difficulties of his position are easily made evident, and adjectives of abuse add warmth to the discussion. In earlier times the partisans of the absolute held sway, and the infinite, to which their opponents were said to be committed, was dubbed 'ugly,' about as strong a term of reproach as the Greek could find, for the ugly was the bad and the false made manifest. In recent times, and partly owing to the conquests made by the theory of evolution in all fields of knowledge, the partisans of the infinite are coming to be more and more boisterously in evidence, and they are returning the compliment. Their opponents' view leads, we are told, to an Absolute which is 'good-for-nothing,' as abusive an epithet as one can find in our strenuous and utilitarian age. All who are not radical empiricists or immediatists, all who hold a doctrine of transcendence, of whatever variety, are declared absolutists. Passing by the realists who, from one point of view, must be ranked with the absolutists, and confining our attention to the idealists, these fall into two fairly distinct groups according as their real-ideal is taken statically or dynamically. The former group may, with some show of plausibility, be charged with introducing the conception of an Absolute which is useless in the interpretation of experience. Yet even here, as tested by actual results, the charge cannot be fully made good; and what measure of utility this conception of the Absolute possesses is readily explicable in the light cast back upon it by the more developed forms of dynamic idealism. As applied to the latter group, however, the charge is wholly without force. It rests upon the assumption that, because the idealist believes in a

world of eternal truth where values are assessed with finality, believes in a world of meaning which changes not with our shifting beliefs, he must, in order to make any significant use of such a conception, himself have had this completed vision, have reached finality. It would, indeed, be a glorious thing, as Socrates remarks in effect in the *Phædo*, if one could only tell how things are by simply showing how it is best for them to be. That, however, would be the wisdom of God and not of man. "Still," he adds, "I had a second string to my bow"—and so have we. The idealist does not, in Profesor James's phrase, 'affect omniscience.' He begins with experience just as he, with all his feebleness and limitations and ignorance, finds it. But he finds the value of the conception of the fixed of dynamic idealism in making intelligible the possibility of working away from this starting-point by definite and sure steps into a world of meaning where nothing is ever lost. Progress is progress, and not simply change, because a less complete view can once for all be set aside in favor of a more complete ; and this is clearly intelligible only provided they all have their position fixed in a scale of worth and meaning which we are gradually finding out, but which we do not make as suits our passing mood or present state or present felt need. This conception is one upon which we lean in every step in our search after truth and reality, and it is our continual, though sometimes tacit, dependence on it that gives us our faith that the game is worth while.

Are Time and Space of Coördinate Philosophical Significance?

HENRY RUTGERS MARSHALL.

Our concepts of time and space are based upon our temporal and spatial experiences. (1) Our temporal experiences are determined by the existence, in connection with presentations, of some phase of time quality, which is a general quality of all presentations and, like the algedonic quality (pain-indifference-pleasure), displays three phases : pastness, presentness, futureness. One of these phases must attach to each specific presentation, as is shown by the fact that each presentation is discovered to display some one of the three time phases if we choose to look for it. The time quality thus appears to be a general quality of all

presentations. That is to say, no presentation is ever timeless. (2) Our spatial experiences are also determined by the existence, in connection with presentations, of what we may call the spatial quality. If this spatial quality is a general quality of all presentations as the time quality is, then we should find that all presentations are spatially qualified, and that no presentation is non-spatial. But this proves not to be the case. For, although a large proportion of our presentations are spatially qualified, some of them are not. As instances of presentations which are not spatially qualified, we may note the group of concepts which cannot be traced back to percepts, *e. g.*, 'factor of safety,' 'virtue'; and especially the so-called 'feelings of relation,' *e. g.*, what Professor James calls the 'feeling of *but*,' which, as he says, is as definitely a presentation as a feeling of blue. These concepts and feelings of relation are definite presentations, but they are not spatially qualified, *i. e.*, they are non-spatial. (3) The spatial quality thus appears to be not a general quality of all presentations, as is the case with the temporal quality, but a special quality which attaches to a very large proportion of, but not to all our presentations. The temporal quality and the spatial quality thus appear to be on different planes, so to speak; and this leads us to ask whether, in consideration of the fact that our concepts of time and space are based respectively upon our temporal and spatial experiences, we are justified in classing time and space together and treating them as of coördinate philosophical significance, as is so commonly done in metaphysical writings of modern times.

On Some Inadequacies of the Modern Theory of Judgment. W. H. SHELDON.

The problem of judgment comprises three questions: the make-up of its content (both psychical and logical), the purpose which that content serves, and the fitness of the content to fulfill the purpose. These are the questions of structure, function, and their mutual adaptation. The generally accepted modern theory has revealed the function of the judgment-content (to refer to reality or to suggest action on the environment). Many logicians, also, have worked out theories of structure (the individual-

universal theory, the stimulus-reaction theory, the synthesis theory, the partition theory, etc.), but scarcely anyone has attempted to show how the structure is adapted to the function of suggesting reality. Herein lies the inadequacy of modern theories of judgment.

Descriptive and Normative Sciences. ERNEST ALBEE.

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Knowledge as Immediate Experience and a Function of Love. L. F. HITE.

The knowledge of concrete experience, in so far as it is reflective, is rational and more or less systematic; but such knowledge presupposes immediate knowledge and rests upon it as its basis. Immediate knowledge is a unique, simple, complete experience, — a self-existent and self-sufficient whole — which contains in itself, unified and harmonized, all the complexity, variety, and relations which, by the developing processes of attention, reflection, analysis, and synthesis, subsequently grow out of it. Experience has two aspects, cognitive and emotional. The cognitive is that which is presented in the function of self-representation. Experience, in its first intention, is immediately self-conscious. In other words, knowledge is a function of experience such that the unique and individual existence of a given experience is self-represented as this precise kind or quality. For example, the experience of the blue sky is the existence of the blue as the precise quality of this self-represented experience. The paper devotes considerable space to showing in detail the nature of immediate knowledge by means of a construction which supposes a man placed under conditions where the only experience he can have is that of the blue sky. Then the situation is developed by adding sound, and finally by supposing all the senses to be opened at once. It is assumed in this case that there would be complete blending, and that the experience would be of the same type as the simple blue. It is maintained that the cognitive aspect of this experience is its existence as its own precise, unique kind or quality. The emotional, æsthetic, and voluntary aspects of the experience are interpreted and developed as characters

which are otherwise covered by the general term love. Love, in accordance with Swedenborg's doctrine, is taken as the fundamental and all inclusive experience. In other words, experience at bottom is love, and all the functions and characters of experience are developments of love. Love, in the process of self-representation, presents that aspect of experience which we call knowledge. Knowledge, as a complete systematic whole, would be the final stage of this process of self-representation.

Cadwallader Colden of King's College. I. WOODBRIDGE RILEY.

Cadwallader Colden (1688–1776), a graduate of Edinburgh University, Lieutenant-Governor of the province of New York, and an early patron of King's College, was the first and foremost of the American materialists. He was a friend of Samuel Johnson, the idealistic head of the college, and the correspondence between the two reads like veritable Berkeleian dialogues between Hylas and Philonous. Assuming that 'substance is power and force,' Colden formed a system of dynamic panpsychism somewhat in the manner of Toland's *Pantheisticon*, yet with peculiar variations of his own. A reactionary against Descartes, Colden was neither a local Leibniz nor a colonial Spinoza; opposing the doctrine of the passivity of matter, he neither granted it the perceptions of the monad nor treated it as a necessary mode of the one and only substance. A follower of Hobbes, he was a materialist and yet not a total determinist; in his physics he limited the activities of matter in accordance with its created essence, and in his metaphysics granted freedom of will to intelligent agents. Finally, a disciple of Newton, he was a dualist and yet not without a tendency to monism; he granted the existence of intelligent agents and unintelligent matter, and still comprehended both under the loose conception of a plastic principle. Colden's position in the development of American thinking was in advance of ordinary eighteenth century deism, anticipated to a degree the New England transcendentalism, and issued in a movement essentially modern,— the resolution of matter into the mechanics of energy.

Philosophy and Religion. A. T. ORMOND.

[Read by title; no abstract furnished.]

The Meaning of Moral Goodness. RALPH BARTON PERRY.

The phrase 'moral goodness' signifies distinguishable and definable properties, possessed by certain objects or groups of objects, but capable of being abstracted; *i. e.*, moral goodness is a conception. The aim of the present paper is the elucidation of the real moral goodness contained in experience but only imperfectly discerned in moral sentiment and opinion. The necessity of employing the terms 'moral' and 'goodness' to qualify one another proves that the conception of moral goodness is not simple. There is a morality that is not good; and a goodness that is not moral. In order, therefore, to define moral goodness, it is necessary to distinguish a field of moral values within which moral good, moral evil, and moral indifference are systematically related. Values which approximate morality appear when an organism is introduced into a mechanical system. Mechanical objects and mechanical action now bear favorably, unfavorably, or indifferently upon the organism's preservation; and may be said to be good, bad, or indifferent, accordingly. These values are strictly extrinsic, and may be termed material or potential values. At the same time, there appear the values proper to the organism itself. The elementary organism is an organization whose action is determined, at any rate in part, by the law of its own preservation. Such action possesses value through its reflex consequences, whether beneficial, injurious, or indifferent. Goodness, badness, and indifference, of this type may be termed 'biological' values. In the elementary organism there is but one undifferentiated interest, the instinct of self-preservation. Such acts as answer to this instinct do not as yet possess moral value. Such value arises only when simple interests become differentiated or affiliated in such wise as to form higher synthetic interests. The former appears in the case of the individual self, the latter in the case of the social group. In both cases the sub-interest possesses moral value in consideration of its bearing upon the controlling interest. In so far as the sub-interest contributes to the controlling interest, it possesses moral goodness; in so far as it detracts from the controlling interest, it possesses moral evil; and in so far as it is inappreciable in either respect, it possesses

moral indifference. Moral value, in the above sense, may be attributed to interested action, or conduct, to self-determining individuals, or selves, to institutions, to social groups, to ideals, and to principles.

A Factor in the Evolution of Morality. F. C. FRENCH.

Evolutionary writers in general have given far more attention to the objective than to the subjective side of the moral life. Action for the good of others, determined by instincts, habits, sympathetic impulses, and the like, appeared at an early stage of animal life; but conscience, as a sense of duty and personal responsibility, does not emerge until a considerably later period in human development. Many facts point to the view that primitive self-consciousness was a group-consciousness rather than an individual self-consciousness. Morality does not begin on the subjective side until the 'cake of custom' is broken and self-consciousness in the individual form appears. Not until this stage is reached can there be that self-determination essential to conduct genuinely moral. This paper aims to show that the first rudimentary form of moral obligation is found in the taboo idea. Certain things are regarded as unspeakably dangerous and these must at all cost be avoided. If contact occurs by necessity or by accident, the person becomes infected by a sort of material contagion. He becomes himself an object of danger and must be tabooed until, by some process of purification, the infection has been removed. Various things are subject to taboo among different peoples; but blood, a corpse, a new-born babe and its mother are almost universal objects of taboo the world over, as are also sacred things, *i. e.*, whatever is associated with a people's religious rites. The taboo concept includes both the sacred and the accursed, the holy and the unclean. The impurity of the taboo object has nothing to do with our notion of uncleanliness. At a later stage of religious development (*e. g.*, among the Hebrews) the taboos are regarded as commands of the deity, but this is an *ex post facto* explanation. Earlier than any organized religion, man learns to dread the mysteriously dangerous and to avoid the same. The mysterious is dreaded as containing some dire infection which must be avoided either by non-contact or

ceremonial purification. 'Touch not the unclean thing' is the first categorical imperative. This primitive imperative, ethical in form but for the most part unethical in content, affords exactly the stepping stone, the missing link, that we need to bridge the chasm between the non-moral and the moral. Various writers on taboo have claimed for it great influence in developing respect for property, marriage, and human life; its deeper and more essential ethical value, however, was in giving the first impetus to the birth of that sense of oughtness which has made man a responsible moral being. Taboo is conscience in embryo.

Some Requisites of a Theory of Ethical Values. W. G. EVERETT.

[Read by title; no abstract furnished.]

LIST OF MEMBERS.

Adler, Professor Felix, Columbia University, New York.
Aikins, Professor H. A., Western Reserve Univ., Cleveland, O.
Albee, Professor Ernest, Cornell University, Ithaca, N. Y.
Alexander, Dr. H. B., 384 St. James Ave., Springfield, Mass.
Angier, Dr. R. P., Yale University, New Haven, Conn.
Armstrong, Professor A. C., Wesleyan Univ., Middletown, Conn.
Bakewell, Professor Charles M., Yale Univ., New Haven, Conn.
Baldwin, Professor J. Mark, Johns Hopkins Univ., Baltimore, Md.
Bawden, Professor H. Heath, Vassar College, Poughkeepsie, N. Y.
van Becelaere, Rev. L., Convent of the Visitation, Georgetown, Ky.
Bentley, Professor I. M., Cornell University, Ithaca, N. Y.
Bigelow, Rev. Dr. F. H., 1625 Massachusetts Ave., Washington.
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Brown, Professor Wm. Adams, Union Theological Sem., New York.
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Campbell, Professor Gabriel, Dartmouth College, Hanover, N. H.
Carus, Dr. Paul, La Salle, Ill.
Case, Professor Mary S., Wellesley College, Wellesley, Mass.

Cattell, Professor J. McKeen, Columbia University, New York.
Chrysostom, Brother, Manhattan College, New York.
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Everett, Professor W. G., Brown University, Providence, R. I.
Fite, Dr. Warner, University of Indiana, Bloomington, Ind.
Fogel, Dr. Philip H., Princeton, N. J.
Franklin, Mrs. Christine Ladd, 103 W. Monument St., Baltimore, Md.
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Fullerton, Professor G. S., Columbia University, New York.
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Hocking, Dr. W. E., Harvard University, Cambridge, Mass.

Hodder, Dr. Alfred, 80 Washington Sq., New York.
Hoffman, Professor Frank S., Union College, Schenectady, N. Y.
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Hughes, Dr. Percy, Tulane University, New Orleans, La.
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Hyslop, Dr. J. H., 519 W. 149th St., New York.
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James, Professor William, Harvard University, Cambridge, Mass.
Johnson, Professor R. B. C., Princeton University, Princeton, N. J.
Jones, Professor A. L., Princeton University, Princeton, N. J.
Jones, Professor Rufus M., Haverford College, Harverford, Pa.
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de Laguna, Professor T., University of Michigan, Ann Arbor, Mich.
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MacDougall, Professor R. M., New York University, New York.
MacKenzie, President William Douglas, Hartford, Conn.
MacVannel, Dr. J. A., Columbia University, New York.
Marshall, Dr. Henry Rutgers, 3 West 29th St., New York.
Martin, Professor Herbert, N. Y. Training Sch. for Teachers, N. Y.
Marvin, Professor W. T., Princeton University, Princeton, N. J.
Mason, Dr. M. Phillips, Princeton University, Princeton, N. J.
McAllister, Dr. C. N., Yale University, New Haven, Conn.
McCormack, Mr. Thomas J., La Salle, Ill.
McGilvary, Professor E. B., University of Wisconsin, Madison, Wis.
McNulty, Professor J. J., College of the City of New York.
Mead, Professor George H., University of Chicago, Chicago, Ill.
Mecklin, Professor John H., Lafayette College, Easton. Pa.

Meiklejohn, Professor Alex., Brown University, Providence, R. I.
Miller, Dr. Dickinson S., Columbia University, New York.
Montague, Dr. W. P., Columbia University, New York.
Montgomery, Dr. G. R., Carleton College, Northfield, Minn.
Moore, Professor Addison W., University of Chicago, Chicago, Ill.
Moore, Professor Vida F., Elmira College, Elmira, N. Y.
Münsterberg, Professor Hugo, Harvard Univ., Cambridge, Mass.
Newbold, Professor W. R., Univ. of Pennsylvania, Philadelphia.
Oakeley, Miss Hilda D., Victoria College, Manchester, England.
Ormond, Professor Alexander T., Princeton Univ., Princeton, N. J.
Pace, Professor E. A., Catholic Univ. of America, Washington.
Patton, President Francis L., Theological Seminary, Princeton, N. J.
Patton, Professor George S., Princeton University, Princeton, N. J.
Perry, Professor Ralph Barton, Harvard Univ., Cambridge, Mass.
Pitkin, Mr. Walter B., Columbia University, New York City.
Puffer, Dr. Ethel D., Radcliffe College, Cambridge, Mass.
Rand, Dr. Benj., Harvard University, Cambridge, Mass.
Raymond, President B. P., Wesleyan Univ., Middletown, Conn.
Raymond, Professor G. L., George Washington Univ., Washington.
Read, Professor M. S., Colgate University, Hamilton, N. Y.
Riley, Dr. I. W., Johns Hopkins University, Baltimore, Md.
Ritchie, Dr. Eliza, Wimerick, Halifax, N. S., Canada.
Robbins, Mr. Reginald C., 373 Washington St., Boston, Mass.
Rogers, Professor A. K., Butler College, Indianapolis, Ind.
Rousmaniere, Dr. F. H., Mt. Holyoke College, South Hadley, Mass.
Rowland, Dr. Eleanor Harris, Mt. Holyoke Col., South Hadley, Mass.
Royce, Professor Josiah, Harvard University, Cambridge, Mass.
Russell, Professor John E., Williams College, Williamstown, Mass.
Sabine, Dr. George H., Cornell University, Ithaca, N. Y.
Santayana, Professor George, Harvard University, Cambridge, Mass.
Schmidt, Professor Karl, Univ. of Florida, Lake City, Fla.
Schurman, President J. G., Cornell University, Ithaca, N. Y.
Sewall, Rev. Dr. Frank, 1618 Riggs Place, Washington, D. C.
Shanahan, Professor E. T., Catholic Univ. of America, Washington.
Sharp, Professor Frank C., University of Wisconsin, Madison, Wis.
Shaw, Professor C. G., New York University, New York.
Sheldon, Mr. Walter L., The Ethical Society of St. Louis.
Sheldon, Professor W. H., Princeton University, Princeton, N. J.
Singer, Professor Edgar A., Jr., Univ. of Penna., Philadelphia, Pa.
Smith, Professor Norman, Princeton University, Princeton, N. J.
Sneath, Professor E. Hershey, Yale University, New Haven, Conn.

Spaulding, Professor E. G., Princeton University, Princeton, N. J.
Squires, Professor W. H., Hamilton College, Clinton, N. Y.
Starbuck, Professor E. D., University of Iowa, Iowa City.
Steele, Rev. E. S., 1522 Q St., Washington, D. C.
Sterrett, Professor J. M., George Washington Univ., Washington.
Stewardson, President L. C., Hobart College, Geneva, N. Y.
Stroh, Mr. Alfred M., Bryn Athyn, Pa.
Strong, Professor C. A., Columbia University, New York.
Swenson, Mr. David F., Columbia University, New York.
Talbot, Professor E. B., Mt. Holyoke Coll., South Hadley, Mass.
Tawney, Professor Guy A., Columbia University, New York.
Taylor, Professor A. E., McGill University, Montreal, Canada.
Taylor, Professor W. J., The Brooklyn Training Sch. for Teachers.
Thilly, Professor Frank, Cornell University, Ithaca, N. Y.
Thompson, Miss Anna Boynton, Thayer Academy, Braintree, Mass.
Thorndike, Professor, E. L., Columbia University, New York.
Tracy, Professor F., University of Toronto, Toronto, Canada.
Tufts, Professor J. H., University of Chicago, Chicago, Ill.
Urban, Professor Wilbur M., Trinity College, Hartford, Conn.
Washburn, Professor M. F., Vassar College, Poughkeepsie, N. Y.
Weigle, Professor Luther A., Carleton College, Northfield, Minn.
Wenley, Professor R. M., Univ. of Michigan, Ann Arbor, Mich.
Whitney, Dr. G. W. T., Bryn Mawr College, Bryn Mawr, Pa.
Wilson, Professor G. A., Syracuse University, Syracuse, N. Y.
Woodbridge, Professor F. J. E., Columbia University, New York.
Woodworth, Professor R. S., Columbia University, New York.
Wright, Dr. H. W., Cornell University, Ithaca, N. Y.

(Members are requested to notify the Secretary of any correction to be made in the above list.)

REVIEWS OF BOOKS.

The Origin and Development of the Moral Ideas. In Two Volumes. Vol. I. By EDWARD WESTERMARCK. London, Macmillan and Co.; New York, The Macmillan Company, 1906. — pp. xxi, 716.

The author of *The History of Human Marriage* has in this work taken up the larger problem of the history of human morality. He brings to his task, of course, the same wonderful erudition and the same rare critical acumen that characterized his former book. The result is what we should expect of Westermarck.

The introductory words remind one of Locke's account of the way in which he was led to write his *Essay*. "The main object of this book will perhaps be best explained by a few words concerning its origin.

"Its author was once discussing with some friends the point how far a bad man ought to be treated with kindness. The opinions were divided, and, in spite of much deliberation, unanimity could not be attained. It seemed strange that the disagreement should be so radical, and the question arose, Whence this diversity of opinion? Is it due to defective knowledge, or has it a merely sentimental origin? And the problem gradually expanded. Why do the moral ideas in general differ so greatly? And, on the other hand, why is there in many cases such a wide agreement? Nay, why are there any moral ideas at all?

"Since then many years have passed, spent by the author in trying to find an answer to these questions. The present work is the result of his researches and thoughts.

"The first part of it will comprise a study of the moral concepts: right, wrong, duty, justice, virtue, merit, &c. Such a study will be found to require an examination into the moral emotions, their nature and origin, as also into the relations between these emotions and the various moral concepts. There will then be a discussion of the phenomena to which such concepts are applied — the subjects of moral judgments. The general character of these phenomena will be scrutinised, and an answer sought to the question why facts of a certain type are matters of moral concern, while other facts are not. Finally, the most important of these phenomena will be classified, and the

moral ideas relating to each class will be stated, and, so far as possible, explained" (pp. 1, 2).

In Chapter I the author lays down his fundamental thesis of "the emotional origin of moral judgments." "That the moral concepts are ultimately based on emotions either of indignation or approval, is a fact which a certain school of thinkers have in vain attempted to deny. The terms which embody these concepts must originally have been used — indeed they are still constantly so used — as direct expressions of such emotions with reference to the phenomena which evoked them. Men pronounced certain acts to be good or bad on account of the emotions those acts aroused in their minds, just as they called sunshine warm and ice cold on account of certain sensations which they experienced, and as they named a thing pleasant or painful because they felt pleasure or pain. But to attribute a quality to a thing is never the same as merely to state the existence of a particular sensation or feeling in the mind which perceives it. Such an attribution must mean that the thing, under certain circumstances, makes a certain impression on the mind. By calling an object warm or pleasant, a person asserts that it is apt to produce in him a sensation of heat or a feeling of pleasure. Similarly, to name an act good or bad, ultimately implies that it is apt to give rise to an emotion of approval or disapproval in him who pronounces the judgment. Whilst not affirming the actual existence of any specific emotion in the mind of the person judging or of anybody else, the predicate of a moral judgment attributes to the subject a tendency to arouse an emotion. The moral concepts, then, are essentially generalisations of tendencies in certain phenomena to call forth moral emotions" (pp. 4, 5).

There seems to be a confusion here which is worth noticing. The ordinary man, in saying that sunshine is warm, does not necessarily mean that it produces in him a warm sensation. He may mean actually to attribute to the sunshine an objective quality of warmth. What he means to assert, *i. e.*, the content of his assertion, may or may not be in accordance with the facts; but whether his assertion, in the meaning it has for him, is confirmed or refuted by the facts has nothing to do with the question what his meaning is. If the truth of a statement were the criterion of its meaning, no statement could ever be false. Now, it may be that moral predicates, as a matter of fact, do not belong to acts *per se*, and that our emotions are the causes of our moral predications; but this, even if true, does not tell us the meaning of the moral predicates. An example will illustrate the point. *A* is not guilty of theft (matter of fact), and yet my dislike for him (cause of my judg-

ment) leads me, wholly against the facts, to interpret the chain of evidence as pointing to his guilt. Now when I say that he stole, my meaning is not to be interpreted from my motive, which is personal dislike: I do not mean to say that I hate the man. Nor is the meaning to be interpreted from the actual facts: else I could be made to mean that he did *not* steal. But Westermarck, in interpreting the meaning of moral predications, uses a principle that would justify these absurd constructions. He confuses the question of the *causes* prompting to moral judgments, with the very different question as to the *meaning* of moral predication. Both questions are treated indiscriminately in the chapter on the emotional *origin* of moral judgments.

But if moral judgments always mean to express only our emotional attitudes, how comes it that they have objectivity ascribed to them? This "illusive" objectivity is ascribed to them "partly on account of the comparatively uniform nature of the moral consciousness" (p. 9), and partly on account of custom (*ibid.*). "Society is the school in which men learn to distinguish between right and wrong. The headmaster is Custom, and the lessons are the same for all. The first moral judgments were pronounced by public opinion; public indignation and public approval are the prototypes of the moral emotions. As regards questions of morality, there was, in early society, practically no difference of opinion; hence a character of universality, or objectivity, was from the very beginning attached to all moral judgments" (p. 9). But, "besides the relative uniformity of moral opinions," due to custom and to the similarity of emotional constitution in men, "there is another circumstance which tempts us to objectivise moral judgments, namely, the authority which, rightly or wrongly, is ascribed to moral rules. From our earliest childhood we are taught that certain acts *are* right and that others *are* wrong. Owing to their exceptional importance for human welfare, the facts of the moral consciousness are emphasised in a much higher degree than any other subjective facts. . . . Thus the belief in a moral order of the world has taken hardly less firm hold of the human mind, than the belief in a natural order of things" (p. 14). "Authority is an ambiguous word. It may indicate knowledge of truth, and it may indicate a rightful power to command obedience. The authoritativeness attributed to the moral law has often reference to both kinds of authority. The moral lawgiver lays down his rules in order that they should be obeyed, and they are authoritative in so far as they have to be obeyed. But he is also believed to know what is right or wrong, and his commands are regarded as expressions of moral truths" (p. 15).

"The presumed objectivity of moral judgments thus being a chimera, there can be no moral truth in the sense in which this term is generally understood" (p. 17), and "if there are no general moral truths, the object of scientific ethics cannot be to fix rules for human conduct," but "to study the moral consciousness as a fact" (p. 18).

Dr. Westermarck frankly characterizes his general theory of the emotional origin of the moral concepts as "ethical subjectivism" (pp. 18, 19). He denies its dangerous consequences, although, of course, even if there were such ,they would not disprove the truth of the theory. Ethical subjectivism, as propounded by the author, "certainly does not allow everybody to follow his own inclinations; nor does it lend sanction to arbitrariness and caprice. Our moral consciousness belongs to our mental constitution, which we cannot change as we please. We approve and we disapprove because we cannot do otherwise. Can we help feeling pain when the fire burns us? Can we help sympathising with our friends? Are these phenomena less necessary, less powerful in their consequences, because they fall within the subjective sphere of experience? So, too, why should the moral law command less obedience because it forms part of our own nature?" (p. 19). In fact, instead of being a dangerous doctrine, the adoption of it would bring about beneficial results. Men would become "more tolerant in their moral judgments," and there would be more progressiveness in the moral life (p. 20).

If, now, moral judgments are those that are called forth by moral emotions, the question next arises as to what are the moral emotions. This question is answered at length in Chapters II, III, IV. "These emotions are of two kinds: disapproval, or indignation, and approval. They have in common characteristics which make them moral emotions, in distinction from others of a non-moral character, but at the same time both of them belong to a wider class of emotions, which I call retributive emotions. Again, they differ from each other in points which make each of them allied to certain non-moral retributive emotions, disapproval to anger and revenge, and approval to that kind of retributive kindly emotion which in its most developed form is gratitude" (p. 21). "Moral disapproval is a kind of resentment and akin to anger and revenge," and "moral approval is a kind of retributive kindly emotion and akin to gratitude" (p. 22). There is a long discussion of the nature of resentment and revenge, but into this we cannot go here. The position upheld by Westermarck, against Steinmetz, is that revenge is not indiscriminate in its application, but

is directed normally towards the aggressor. Even the fact of collective responsibility among primitive peoples does not interfere with this theory. "The fact that punishments for offences are frequently inflicted, or are supposed to be inflicted, by men or gods upon individuals who have not committed those offences, is explicable from circumstances which in no way clash with our thesis that moral indignation is, in its essence, directed towards the assumed cause of inflicted pain. In many cases the victim, in accordance with the doctrine of collective responsibility, is punished because he is considered to be involved in the guilt — even when he is really innocent — or because he is regarded as a fair representative of an offending community. In other cases, he is supposed to be polluted by a sin or a curse, owing to the contagious nature of sins and curses. The principle of social solidarity also accounts for the efficacy ascribed to vicarious expiatory sacrifices; but in many instances expiatory sacrifices only have the character of a ransom or bribe" (pp. 69, 70).

But though moral disapproval is a species of resentment, "its aggressive character has become more disguised" in the course of evolution (p. 73). Forgiveness has taken the place of retaliation, in some of the more advanced civilizations. "The rule of retaliation and the rule of forgiveness, however, are not so radically opposed to each other as they appear to be. What the latter condemns is, in reality, not every kind of resentment, but non-moral resentment; not impartial indignation, but personal hatred. It prohibits revenge, but not punishment" (p. 77). Now in punishment the ground motive is retributive. The author undertakes to show that neither the deterrent nor the reformatory theory of punishment does justice to the facts, and he subjects both theories to a critical examination. His conclusion can be expressed in two sentences. "Punishment can hardly be guided exclusively by utilitarian considerations, but requires the sanction of the retributive emotion of moral disapproval" (p. 82), and "the principle of reformation has thus itself a retributive origin" (p. 88).

In Chapter IV the author discriminates moral disapproval from anger and revenge, and moral approval from gratitude. One of the *differentiæ* is the disinterestedness of the moral emotions. "The predicate of a moral judgment always involves a notion of disinterestedness. . . . A moral judgment may certainly have a selfish motive; but then it, nevertheless, pretends to be disinterested, which shows that disinterestedness is a characteristic of moral concepts as such" (p. 101). "Disinterestedness, however, is not the only characteristic by which moral

indignation and approval are distinguished from other, non-moral, kinds of resentment or retributive kindly emotion. It is, indeed, itself a form of a more comprehensive quality which characterises moral emotions — apparent impartiality" (p. 103). "A moral emotion, then, is tested by an imaginary change of the relationship between him who approves or disapproves of the mode of conduct by which the emotion was evoked and the parties immediately concerned, whilst the relationship between the parties themselves is left unaltered. At the same time it is not necessary that the moral emotion should be really impartial. It is sufficient that it is tacitly assumed to be so, nay, even that it is not knowingly partial" (p. 104). "Finally, a moral emotion has a certain flavour of generality" (p. 104). The generality is illusory, but still when one judges morally, one feels that his judgment "*would be* shared if other people knew the act and all its attendant circumstances as well as he does himself, and if, at the same time, their emotions were as refined as are his own. This feeling gives to his approval or indignation a touch of generality, which belongs to public approval and public indignation, but which is never found in any merely individual emotion of gratitude or revenge" (pp. 104–5).

Now another problem arises. How comes it that the emotions of resentment and non-moral gratitude acquire these touches and flavors of disinterestedness, impartiality, and generality? Chapter V, "The Origin of the Moral Emotions," answers this question.

As to disinterestedness, the answer is easy. "It is obvious, then, that sympathy aided by the altruistic sentiment — sympathy in the common sense — tends to produce disinterested retributive emotions" (p. 111). This reminds one of Adam Smith's *Theory of the Moral Sentiments*, to which the author refers in this connection. But when Westermarck comes to account for generality and impartiality as *differentiæ* of moral emotions, he emphasizes the social environment, which Adam Smith did not make very much of. The problem here seems also to change on our hands. "However, the real problem which we have now to solve is not how retributive emotions may become apparently impartial and be coloured by a feeling of generality, but why disinterestedness, apparent impartiality, and the flavour of generality have become characteristics by which so-called moral emotions are distinguished from other retributive emotions. The solution of this problem lies in the fact that society is the birthplace of the moral consciousness; that the first moral judgments expressed, not the private emotions of isolated individuals, but emotions which were felt by the

society at large; that tribal custom was the earliest rule of duty" (pp. 117, 118). "The most salient feature of custom is its generality. Its transgression calls forth public indignation; hence the flavour of generality which characterises moral disapproval. Custom is fixed once for all, and takes no notice of the preferences of individuals. By recognizing the validity of a custom, I implicity admit that the custom is equally binding for me and for you and for all the other members of the society. This involves disinterestedness; I admit that a breach of the custom is equally wrong whether I myself am immediately concerned in the act or not. It also involves apparent impartiality; I assume that my condemnation of the act is independent of the relationship in which the parties concerned in it stand to me personally, or, at least, I am not aware that my condemnation is influenced by any such relationship. And this holds good whatever be the origin of the custom" (pp. 120, 121).

But while custom explains the disinterestedness, impartiality, and generality of moral emotions, "custom is a moral rule only on account of the indignation called forth by its transgression. In its ethical aspect it is nothing but a generalisation of emotional tendencies, applied to certain modes of conduct, and transmitted from generation to generation. Public indignation lies at the bottom of it" (p. 121).

Having thus examined in detail the nature and the origin of the moral emotions, the author proceeds in Chapter VI to analyze the moral concepts, which are "generalisations of tendencies in certain phenomena to call forth" these "moral emotions" (p. 5). This analysis is in order to show the connection between the moral concepts and the moral emotions.

One of the most striking features of the analysis is that many of the concepts usually considered to be positive in character are, according to the author's analysis, negative, and are directly connected with the emotion of disapproval, not with that of approval. "Ought" is analyzed into a conation *plus* a potential indignation at the thought that what ought to be done may be omitted. "The conation expressed in 'ought' is determined by the idea that the mode of conduct which ought to be performed is not, or will possibly not be, performed. It is also this idea of its not being performed that determines the emotion which gives to 'ought' the character of a moral predicate. The doing of what ought not to be done, or the omission of what ought not to be omitted, is apt to call forth moral indignation — this is the most essential fact involved in the notion of 'ought.' Every 'ought'-judgment contains implicitly a negation" (p. 135).

Duty is treated as synonymous with obligation. Even "right," whether used as an adjective or as a noun, expresses a moral conception that is essentially negative. Wrong (adjective) is not defined as not-right, but on the contrary, right (adjective) is defined as not-wrong. "The concept of 'right,' then, as implying that the opposite mode of conduct would have been wrong, ultimately derives its moral significance from moral disapproval. This may seem strange considering that 'right' is commonly looked upon as positive and 'wrong' as its negation. But we must remember that language and popular conceptions in these matters start from the notion of a moral rule or command. . . . But the fact which gives birth to the command itself is the indignation called forth by the act which the command forbids, or by the omission of that which it enjoins" (pp. 138–9). "Right" as a substantive is also treated negatively. "To have a moral right to do a thing means that it is not wrong to do it," and also "that it would be wrong of other people to prevent" the doing of it (p. 139). Still again, "an act is 'just,' in the strict sense of the word, if its omission is unjust" (p. 142).

Of course there are moral conceptions that are rooted in the emotion of approval. They are goodness, virtue, merit, etc.; but the moral attitude is predominantly negative, one of disapproval, rather than of approval, hence the generalizations of tendencies which put us into the moral attitude must result in negative conceptions rather than in positive.

These six chapters just reviewed in some detail, present the most important features of Westermarck's ethical theory. There are six other chapters devoted to theory, and the remaining portion of the volume, pp. 327–716, is not so much theory as statement of fact. The subjects treated, ethnographically and historically, are homicide in general; the killing of parents, sick persons, children; feticide; the killing of women, and of slaves; the criminality of homicide influenced by distinctions of class; human sacrifice; blood revenge and compensation; the punishment of death; the duel; bodily injuries; charity and generosity; hospitality; the subjection of children; the subjection of wives; and slavery.

Every one who is acquainted with *The History of Human Marriage* is prepared to find a most painstaking and comprehensive, one is tempted to say exhaustive, presentation of accessible facts bearing on the general subject of the book. The interpretation of these facts may here and there be questioned, but the important thing is to have the facts collected so as to be within easy reach. Ethical theorists should

find the work invaluable, as thus furnishing them with concrete facts to rest their theories on or to test their theories by. The sociologist will find illuminating discussion of many customs, while the general reader, if interested in matters of universal human concern, cannot fail to get much pleasure and instruction from the reading of the book.

Altogether it is perhaps safe to say that the work is the most important contribution to ethical literature within recent years.

EVANDER BRADLEY MCGILVARY.

UNIVERSITY OF WISCONSIN.

Idola Theatri: A Criticism of Oxford Thought and Thinkers from the Standpoint of Personal Idealism. By HENRY STURT. London, Macmillan & Co.; New York, The Macmillan Co., 1906. — pp. xvii, 344.

This work is a deliberate effort to follow up the campaign of enlightenment begun in the series of essays entitled *Personal Idealism*, of which, as it will be remembered, the author was editor. "The indignation with which Mr. Bradley and the Hegelians have greeted the advent of pragmatism shows that the Idols of the Theatre criticised in the following pages possess an importance not merely historical, and that they have to be driven from the field before voluntarism can get a fair hearing" (p. 6). It is with the intention of contributing to this result, and, as it may be presumed, of enforcing the "new way of ideas," that the author has written and published this controversial pamphlet of over three hundred pages. Speculative power of no mean order, as well as courage, is indispensable in an attack upon such vigorous thinkers as Hegel, the late T. H. Green, Dr. F. H. Bradley, and Professor Bosanquet. I do not doubt that an enlightened and sympathetic criticism of English idealism would be opportune at the present time; but it could only be written by one who knew Hegel from the inside, and not simply through the medium of what Dr. Hutchison Stirling would call "the literature of the subject," and who was able to appreciate at their full value the contributions of the English representative idealists. Whether the author possesses the qualities required in so bold an adventure may be fairly doubted.

The prime mistake of past philosophy, we are told, is the "Passive Fallacy," which consists in a "tendency . . . to overlook the element of activity in the human self, and to regard the world at large as mutable only through defect and infirmity, or even as static beneath its appearance of change" (p. 8). This fallacy is obvious in

cosmology. "Science depends on the discovery of uniformities in the flux of phenomena," and as "in the eye of science a law is vastly more important than its concrete examples," thinkers "have been wont to concentrate attention upon the uniformities, to emphasize them as the true realities, and to speak slightingly of the mutable concrete facts as unreal. So must we explain the tendency to regard nature as a fixed system of laws, and as being in its essence statical, however it may appear to change. . . . Reflection ought to bring us back to see that it is the concrete facts which count, and that laws are constructed to help us in understanding the concrete past and present, and in predicting and managing the future" (pp. 12–13). The Passive Fallacy "applies no less to religion. In the dynamic view God is to be regarded as an energy continuously manifested; in the static view the fixed rules of divine action alone are real. Thus it has become usual to apply to God every epithet expressing permanence; in Him there is no variableness nor shadow of turning . . . so potent has the static prejudice grown that to attribute change to God will seem almost pagan" (p. 13). Lastly, in the mental sciences the Passive Fallacy is "helped by the clear severance which early analysis makes between human faculties. . . . Each man is one being, and thinks and acts as one;" whereas, "in logic, particularly, the intellect has been treated as separable from conation. . . . It will be the task of logic in the future . . . to prove that logical functions and concepts are moulded and penetrated every way by conative experience" (p. 14).

These sentences are typical of the kind of criticism which runs through the whole of the book. Plato, Hegel, and other thinkers are supposed to deny the reality of change; and to affirm that nature is "statical," "fixed rules of divine action alone being real"; and to "regard the intellect as separable from conation." These charges seem to me to be due to misapprehension. None of the thinkers referred to denies "change"; what they deny is that the changes which undoubtedly go on in the world are such as to involve absolute origination or destruction. Does a scientific man deny "change," when he maintains the doctrine of the "conservation of energy"? When an idealist of the older type denies that the Absolute is in process of origination or decease, does he therefore deny that there are changes in the finite? And how can it be shown that, in refusing to admit truth to be only what helps to realize human purposes, and affirming knowing, feeling, and willing to be distinctions within a single self-conscious subject, we lay ourselves open to the charge of breaking up the unity of the subject into separate faculties?

Some light is thrown upon these extraordinary misconceptions by the indefinite phraseology employed. What are we to understand by the statement that science "depends upon the discovery of uniformities," and that "laws are constructed to help us in understanding the concrete past and present, and in predicting and managing the future"? It is a fundamental principle of all modern science, no doubt, that there are "uniformities" or "laws" in nature; nor does any idealist deny that they "help us in understanding the concrete past and present, and in predicting and managing the future." But the question is whether nature is to be conceived as merely permitting the realization of human purposes, or whether nature and man constitute a unity of such a character that together they form an indissoluble whole. Are "laws" the statement of an actual system, or merely regularities in an accidental assemblage of objects and events, which we contrive to turn to our advantage, but which for aught we know have no rational connection? The "personal idealist," so far as I have been able to see, never clearly makes up his mind which of these views he is prepared to adopt. He takes advantage of the doctrine that the world is a rational system, while making assertions that render the whole conception unmeaning.

"Intellectualism" is the next object of attack. "The intellectualist can only be defined in the most general terms as one who attempts to explain everything in terms of thought or reason, to the neglect of other sides of our experience, more particularly of sensation and volition" (p. 16). The philosophy of Hegel, the purest type of "panlogism," "regards all experience as thought." Hence it "denies more or less explicitly various generally accepted characteristics of thinghood. One of these characteristics is alienness from spirit. Every form of idealism claims that by deeper insight this alienness may be transcended, and that matter is ultimately to be regarded as a form of spirit; but every one, except the panlogist, will admit that at any view-point short of ultimate, things are not spiritual; they persist stubbornly in their own mode of existence. This gulf between the spiritual existence of persons and the unspiritual existence of things must be ignored by the panlogist" (p. 30).

Are we to understand that from an "ultimate view-point" the "alienness" of things *is* "transcended"? If so, the crime of the "panlogist" seems to consist in stating what is true, — unless, indeed, we are to distinguish between an "ultimate" and a "true" point of view. Or is his offence an endeavor to establish this "ultimate view-point" by a rigid criticism of lower categories, among them that of

"thinghood"? "Personal idealism" must really decide whom it will serve. If it elects for the crass dualism of common sense, it had better avoid all assertions about the "spirituality" of matter; if it is serious with idealism, it must cease to affirm that "things persist stubbornly in their own mode of existence."

Two foes still remain to be dealt with: "Absolutism," which rejects personality in favor of the Absolute, and "Subjectivism," which arises from over-emphasis on the subjective side of experience. With the former Mr. Bradley is deeply infected, though, in contrast to Hegel, he conceives the Absolute under the form of feeling. The impracticability of his "feeling-absolutism" is illustrated by his treatment of such ontological conceptions as space and time, and above all of personality. These are condemned as "radically unsound," simply because they "involve relation" (p. 90). Mr. Bradley's attack, however, is held to be "quite ineffective" (p. 91). One naturally supposes that this defence of space, time, and personality is meant to show that these conceptions are true determinations of reality. The reader who has fallen into this mistake is soon undeceived. "From this defence of time [and space]," says Dr. Sturt, "it should not be inferred that I wish to affirm their ultimate validity and to argue that they hold good absolutely. The obvious fact is that they are human conceptions, relative to human faculties and purposes, and not valid beyond them. An absolute consciousness has doubtless its appropriate categories or cosmological conceptions; but we cannot tell what they are, except that they must be different from ours" (p. 94.) As the author up to this point has been contending for the reality of time and space, it is somewhat of a shock to learn that after all he denies their "ultimate validity," does not admit that they "hold good absolutely," declares them to be merely "human conceptions," and informs us that they are "evidently inappropriate to an absolute being." If so, it is obvious that by "reality" can only be meant "appearance." If our categories differ from those of an "absolute consciousness," they must differ for the worse, unless, indeed, there are two kinds of "realities" and two kinds of intelligence; and if this is his ultimate line of defence, the author may be invited to explain how an intelligence such as ours, capable only of dealing with its own species of "reality," con trives to establish the existence of a "reality" comprehensible only by an intelligence armed with categories of which we can say nothing but that they "must be different from ours." Moreover, as "personality" must share in the general disability of all "human conceptions," we are entitled to apply to it what our author says of time and space:

it has no "ultimate validity," but is "merely a human conception, relative to human faculties and purposes." How "personality" is to be defended in this way it is difficult to see.

In dealing with "Subjectivism" our author tells us that "if we start with assuming that the self is limited in the first instance to its conscious states, we shall have much difficulty in explaining how it gets outside them" (p. 139). With this contention the ordinary idealist will agree, except that he will be disposed to declare without reservation that a self so limited must remain forever imprisoned within its "conscious states." Our author, however, seems to have forgotten that, in criticising the "absolutist's" view of personality, he has told us that "it is a statement of the plainest fact to say that a soul is more separate from its environment than a crystal from its solution" (p. 97). Apparently he does not see that the dualist, who begins with the abstract opposition of subject and object, is forced by a remorseless logic to deny all knowledge of the object by the subject, and is thus open to the same criticism as the solipsist.

In the criticism of individual thinkers, we meet with some extraordinary judgments. We are told, for example, that Hegel "had a mind which was essentially unclear"; a remark which reminds one of the Scotch student who, when taxed with misconstruing Cicero, defended himself by saying that he thought the text was "rayther confused." In more than one passage (pp. 182n., 203, 271) Hegel's "sensuous certitude" is referred to as a flagrant instance of his "utterly arbitrary and fantastic" mode of treatment. Hegel, we are informed, "there undertakes to prove that immediate sense-experience (*sinnliche Gewissheit*) gives us nothing but pure being (*reines Seyn*)." It would be hard to imagine a more inept criticism. Hegel makes no attempt to "prove" that sensation gives us nothing but *reines Seyn*: he *describes* the first attitude of consciousness as that of an uncritical belief in the immediate reality or "being" of the object, the attitude in fact of common sense, as represented by Locke. The problem is precisely the same as that dealt with by Plato in the *Theætetus*, and indeed Hegel obviously received from that dialogue, combined with the corresponding discussion of the "Sensible" in Aristotle's *Metaphysics*, the suggestion to press home the consequences of reducing knowledge to immediate, sensible apprehension. Anyone who gets at the right point of view will see that Hegel is perfectly right in saying that pure or unrelated "being" is the only determination of *thought* here explicitly employed, and cannot fail to admire the masterly way in which it is shown that, taken at its word,

the sensuous consciousness dissolves experience into nothingness. The notion that Hegel is here attempting to reduce the concrete differences of sensation to "pure being" is wide of the mark: what he contends for is, that, whatever may be the sensuous differences of things, they cannot be known in a purely immediate consciousness.

Much has yet to be done, especially in the characterization of the organic system of categories, and in the better comprehension of the relations of nature, man, and the Absolute; but that desirable end will certainly not be advanced by an uncritical use of popular categories. If "personal idealism" is to be more than an appeal to the average cultivated mind, it must discard its untenable oppositions of thought and will, nature and personality, man and God. Whatever changes are in store for us, it is certain that such abstract antitheses as these have had their day, and can bring satisfaction to no one who is serious with philosophy.

JOHN WATSON.

QUEEN'S UNIVERSITY.

Geschichte der neueren deustchen Philosophie seit Hegel: Ein Handbuch zur Einführung in das philosophische Studium der neuesten Zeit. Zweite vermehrte und verbesserte Auflage. Von OTTO SIEBERT. Göttingen, Vandenhoeck und Ruprecht, 1905.— pp. x, 598.

The first edition of Dr. Siebert's *History* was published in 1898. Now, after an interval of seven years, the second edition appears, "enlarged and improved," with notice taken of the criticisms which were offered on the earlier work, but also with the aim of the writer substantially unchanged. His purpose still is to accomplish the most difficult task of giving a lucid and full account of the philosophical movements of the latest years. Beginning with the school of Hegel, he traces the development of German thought through the followers of Fichte, Herbart, Fries, Schopenhauer, and others; in Part Second advances to the discussion of the progress of the natural sciences and their influence on philosophy; in Part Third considers the newer attempts at systematic construction (Fechner, Lotze, Wundt, Eucken, Schuppe, and others); and concludes his work with a new section on "The Particular Philosophical Sciences" and an appendix defining the fundamental philosophical concepts.

Besides a definite purpose in writing, Dr. Siebert has a settled philosophical position, and a characteristic historical method. For himself he is a convinced follower of Eucken, to whom he does not hesitate to ascribe the foremost place among the constructive thinkers of the time (pp. 5, 490). As an historian he is to be classed most nearly

with those who adopt an objective point of view, stating a philosopher's conclusions often in the words of the philosopher himself. The plan of his treatise is inclusive, with attention given not only to the leaders of later speculation, but also to their followers, down to the inquirers of the second, or even the third, rank of importance, as they would be estimated by the majority of their contemporaries. In either case the attempt is made to give a clear account of the principal doctrines of the thinker under consideration. If he is one of the masters, — Lotze, Wundt, Von Hartmann, for example, — the discussion is naturally more extended than in the case of lesser names; but it is a characteristic feature of the work that it supplies information concerning a large number of philosophers whose systems are dismissed by other historians with only cursory treatment. But the aim is always graphic representation, with at intervals suggestions of the positions which the author himself considers the best grounded. Completeness of statement, on the other hand, is not uniformly attained; and while it does not come within the writer's scheme to give a documentary history of opinion, it is a matter for regret that the bibliographical notes are less full than in an account of the most recent thinking it was desirable that they should be.

The original edition of Siebert's book met a mixed reception. It was praised as a meritorious attempt to furnish a needed history of the latest thinking; it was also criticised as defective alike in the details of the work and in its general outline. The critics, in the first instance, pointed out errors of interpretation, the severest censure that has come to the notice of the present reviewer being visited on the account of Nietzsche (*cf.* F. Medicus, *Kantstudien*, IV, p. 121). These deficiencies, moreover, are not confined to the discussions of particular systems, but, to the reviewer's mind, appear more seriously in the treatment of the broader movements and their interconnections. At the beginning of the book, it is correctly stated that the dissension within the Hegelian school was active in producing the decline of Hegel's influence; but the pressure from without, due to the discrepancy between the master's *a priori* constructions and the results of concrete history and science, is passed unnoticed (p. 7–8). To English and American readers, at least, a fuller specification of the relation between Hegelianism and the earlier socialism would have been welcome (pp. 22–26) In the section entitled "Helmholtz und seine Gesinnungsgenossen," the transition from the earlier to the later *Energetiker* is mediated by the sentence: "Die Mayer-Joule-Helmholtzschen Gedanken haben viele Freunde gefunden" (p. 301). In-

terpreted as referring to the scientific principle of the conservation and correlation of energy, this is obviously inadequate; referred to philosophical energetics, it lacks much by way of clearness and precision. In the account of Darwinism and its bearing on reflective thinking, it is remarkable that Weismann is dismissed with a scant six lines of book-titles (p. 331); and a careful statement of the rise and influence of the neo-Lamarckian school would make a valuable substitute for the author's summary criticism of Darwinism in its original form (pp. 333–4).

Such examples as these are worth consideration, also, because they raise a larger question. The first edition of Siebert's work was blamed as lacking in the matter of genetic explanation. In the preface to the present issue he defends himself against the charge, on the ground that a genetic history of the present and the recent past is rendered impossible by the proximity of the movements to be explained. In support of this position he appeals to Vorländer (p. vi); and he will find further confirmation of his view in the latest notice of his book, by Siebeck (*Zeitschrift für Philosophie und philosophische Kritik*, July, 1906, pp. 191–193). It is questionable, however, whether the objection can be met so easily. A complete genetic account of the latest developments of reflective thinking is no doubt impossible. But there is a considerable difference between completeness and inadequacy; and it must be remembered that the history before us begins with the years succeeding the death of Hegel, that is, three quarters of a century ago. In the reviewer's judgment, much more might be here accomplished than the author has attempted, and the uncertainty of his touch when he approaches the great lines of historical development is one of the chief remaining imperfections of his work.

In another respect,— the introduction of critical remarks,— the author has yielded to his critics instead of resisting them, but again with less than full success. The content of the judgments passed is often sound; their form is nearly always open to objection, as at times the outcome to which this manner leads. For the method of criticism is dogmatic rather than historical, with the writer's negative comments occasionally interpolated into his account of a given philosopher or system. An example may be cited from the section on "W. Wundt und der Psychologismus." Between the exposition of Wundt's metaphysical and psychological positions and the statement of his views on freedom and responsibility, opportunity is made for a statement and destructive criticism of psychophysical parallelism, culminating in the assertion that parallelism is logically tantamount to materialism

(pp. 453–459). Further instances of Siebert's critical methods are his discussions of Nietzsche (pp. 243–250), of materialism (pp. 352–356), of Avenarius and positivism (pp. 362–365), of Jodl and ethical culture (pp. 376–377).

But it would be unjust to dwell on these shortcomings. They detract, indeed, from the merit of the work, which in its present form fails to reach the level of the classical authorities. But alike in plan and execution it is much more than a preparatory study, as the author modestly terms it (p. vi), for the mature genetic history which the future alone can supply. In the second edition it constitutes a valuable account of later German speculation; in fact, it is perhaps the most nearly complete and thorough treatise on the subject which we now possess. And if the author, with his evident historical instinct, will continue to develop and coördinate his material, it will take still higher rank in the issues which the coming years are sure to bring.

A. C. ARMSTRONG.

WESLEYAN UNIVERSITY.

The Psychology of Beauty. By ETHEL D. PUFFER. Boston and New York, Houghton, Mifflin, and Co., 1905. — pp. vii, 286.

The serious study of æsthetics is experiencing a revival no less notable than the revival of a half century ago — the period of Vischer and Zeising, of Hay and Fechner. The tone of the earlier revival was mixed; it was partly philosophical, partly historical, and partly scientific. The traditions were philosophical, while the spirit of the times was inclined toward science. The tone of the present revival is more strongly empirical; and its empiricism bears greater promise, both because it rests upon a broader basis of fact than the former, and because it turns to account new and improved methods of research. With scores of studies in 'experimental æsthetics,' with elaborate doctrines of the 'elementary æsthetic feelings,' and with the whole pattern of psychology before it, the 'new æsthetics' attempts, with a better chance of success, the analysis and explanation of the enjoyment of beauty; the difficult task that the courageous Burke set himself before the days of modern mental and biological science.

The Psychology of Beauty represents, in a conservative manner, present tendencies in æsthetics. While conceding to philosophy the right to define beauty, it reserves for psychology and biology the task of describing the means through which the beautiful object is apprehended; *i. e.*, the task of describing the æsthetic experience. "The beautiful object possesses those qualities which bring the personality into a state of unity and self-completeness," but "personality, as

dealt with in psychology, is but the psychophysical organism, and we need to know only how to translate unity and self-completeness into psychological terms." 'Unity' means, thus translated, "a state of repose, without tendency to change." 'Self-completeness' means a condition of "favorable stimulation, the highest possible point of tone, of functional efficiency." Æsthetic repose is further defined as tension, equilibrium, balance of forces, the inhibition of impulse or action by counter-impulse or action; favorable stimulation is, likewise, harmonious functioning, enhanced life, a heightening of the vital energies.

The greater part of the book is occupied with the discussion of these two factors in æsthetic enjoyment — stimulation and repose — and with the application of the factors to the various forms of beauty.

In the fine arts, favorable stimulation is effected by exciting color-tones (reds and yellows), strong saturations, brightnesses and contrasts, and by imitative movements of the whole motor mechanism; repose, in the same works, by space-composition, *i. e.*, by geometrical and "substitutional" symmetry, "subjectively the balance of attention." "It is to the eye and all that waits upon it that the first and the last appeal of fine art must be made." In music, rhythm "fulfills a need," furthers the "natural functioning" of the organism, and therefore stands for favorable stimulation; while the completeness of the rhythmical unit, as well as the melodic form, ministers to repose. "The æsthetic emotion for music is then the favorable stimulation of the sense of hearing and those other senses that are bound up with it, together with the repose of perfect unity." In literature, "the art of experience," repose comes through the ideal representation of the "meaning of life as a whole" (real literature is said to possess the "repose of centrality"); or, again, through a volitional attitude. "If we accept, affirm, profoundly rest in what is presented to us, we have the first condition of that repose which is the essence of the æsthetic experience." Favorable stimulation seems to come (the point is not clear) from the fulness, the vividness of life portrayed in literary works. The drama, whether tragedy or comedy, involves "confrontation" of characters, and hence conflict, tension, balance, repose. The æsthetic pleasure of the experience is here definitely described as a unique emotion, resident in the spectator. The enhanced life of the spectator — therefore favorable stimulation — seems also (though again the matter is obscure) to be derived from the vividness of the dramatic experience.

The value of the book largely rests upon the validity of these two

explanatory principles, 'favorable stimulation' and 'repose.' It is then of primary importance to observe that the words are employed in several different senses — biological, physiological, psychological, and 'personal.' Their psychological interpretation is suggested both by the title of the book and by the declaration that the science of æsthetics is to be "developed as a system of laws expressing the relation between the object and æsthetic pleasure in it." Again, the biological cast of the terms appears in the light of such expressions as the following: "harmonious functioning of the human organism," "healthy action" of bodily organs, "organic reverberation"; while the personal or volitional aspect of at least one of the two terms comes out clearly in the chapter on "The Beauty of Literature," where the æsthetic quality of things is said to lie in the identity of the world with our "deepest wills." And, finally, at the end of the volume, the author declares that "the psychophysical state known on its feeling side as æsthetic pleasure" is "first, a kind of physiological equilibrium . . . secondly, a psychological equilibruim . . . and thirdly, a quietude of the will, in the acceptance of the given moral attitude for the whole scheme of life."

In the opinion of the present writer, the author has, in her threefold root of the æsthetic experience, introduced an element of confusion. In her attempt to transcend the venerable terms 'unity' and 'perfection' (or 'self-completeness') she has made use of concepts — 'stimulation,' 'tension,' 'balance of organic energies,' etc.,— that are primarily and essentially physiological in meaning. The psychological and æsthetic employment of these words is at best, therefore, — barring explicit definition — only analogical. There is, one may say, no one state, thing, or process that is, in the body, 'repose,' in the mind, 'repose,' and in the personal attitude, 'repose'; at least no identity in the three realms is made apparent in the exposition. The repose resulting from antagonistic tensions in the eye-muscles, *e. g.*, is surely not identical with the "centre of repose" given by "the underlying identity of ourselves with the world," or with the "perfect reposeful harmony of human nature in its entirety." And favorable stimulation of the nervous system we should hardly expect *to come to consciousness* as favorable stimulation, but as strong feeling, or as vivid sensation, or as rapid flow of ideas; while the identification of 'enhanced life' in the biological sense (whatever the phrase may exactly mean) with 'the sense of life,' the 'moment of perfection,' in which literature "reveals ourselves to ourselves," is well-nigh as far-fetched as mediæval cures effected on the principle of natural sympathy.

If 'unity' and 'perfection,' 'harmony' and 'self-completeness' are stale and barren terms, 'favorable stimulation' and 'repose,' 'enhanced life' and 'centrality' are, at best, vague and ambiguous; and it is, I think, their undiscriminating use that accounts for an element of obscurity, not to say inconsequence, in the author's doctrine of the beautiful. This element appears most strikingly, perhaps, in the appeal to the "triumphant will," a factor which is declared to be essential to the æsthetical enjoyment of music, drama, and literature, but which properly reduces neither to 'favorable stimulation' nor to 'repose.' The ambiguity in question works its most serious harm, however, in the temptation it offers to confuse the æsthetic consciousness with the underlying physiological conditions of æsthetic feeling. The result is that the unique and specific emotion of "undefined exaltation" that forms the very heart of the psychology of beauty comes out in the exposition almost by accident, and receives nowhere an adequate analysis. If emphasis had been laid upon this all-important "æsthetic" emotion, instead of upon the 'reaction' theory of emotions in general, the work would have been more a psychology and less a biology of beauty.

If, finally, we bring back favorable stimulation and repose to their primary physiological meaning, we have still to ask whether they furnish, when stripped of figure and analogy, a satisfactory basis for a doctrine of æsthetics.

It is, clearly, in music and the fine arts of vision that the doctrine is most plausible; for these arts make, of all forms of beauty, most direct appeal to the senses. But even here the theory is defective. In the matter of color-preference, the facts are too few and the observations too contradictory to warrant the sweeping statement that "the eye loves warmth, light, strong color effects,"[1] and, moreover, the 'balance' theory of composition is, as I have tried elsewhere to show,[2] too hypothetical for easy acceptance. Should the theory find factual support it would still be difficult to understand why, for example, yellow or the combination of contrasting colors or the right-

[1] The author appeals to the dynamogenic effects of color, but fails to note a corresponding phenomenon in the organic response to tastes. Quinine and bouillon, *e. g.*, seem (Ch. Féré, *Sensation et mouvement*, 1887, pp. 47 ff.) to possess dynamogenic properties quite out of proportion to their ability to produce the "perfect moment" of æsthetic exaltation; but — *de gustibus non disputandum!* It may be noted that green, to which the text accords a small æsthetic value, was found, in later experiments of Féré's (*Travail et plaisir*, 1904, p. 105) to produce "the maximum of stimulation with the minimum of fatigue."

[2] This REVIEW, Vol. XIV, 1905, p. 255.

left balance of a picture should call forth the emotion of "undefined exaltation" or should determine the triumphant will. In explanation of the sensuous factor in music, the theory is more convincing, though the reference of the pleasure in rhythm to natural fluctuations of attention, is, at the present stage of the problem of attention, somewhat fanciful.

But it is when we pass to the arts of 'ideas' and 'meanings' that the physiological powers invoked lose their efficacy and tend to degenerate into formal principles. It is not strange that the 'triumphant will' and the aggressive personal attitude should then be brought forward to save the day and to preserve the doctrine. It is precisely then that 'favorable stimulation' and 'repose' suffer a complete metamorphic change and appear henceforward, as we have seen, under the indeterminate forms of 'enhanced life,' 'expanded experience,' and 'self-revelation.'

The Psychology of Beauty is composed of a series of delightful essays whose charm can escape neither the casual nor the critical reader. Its difficulties are exactly the crucial difficulties of the subject. The first and greatest of these is the discovery — if, indeed, the thing exists! — of the common psychological factor in æsthetic experience. If the book slips unwittingly into the physiology of beauty and into a metaphysical doctrine of the will, that is because the backbone of the psychological problem of æsthetics has never really been broken; and until a thoroughgoing analysis of the æsthetic experience has been carried through, the "new æsthetics" cannot be said to have won a permanent place among the sciences.

I. Madison Bentley.

Cornell University.

NOTICES OF NEW BOOKS.

Saggi sulla teoria della conoscenza. Saggio secondo filosofia della metafisica. Parte prima: La causa efficiente. Da COSMO GUASTELLA. Palermo, Reno Sandron, 1905. — Vol. I, pp. 762; Vol. II, pp. 470, CCXXV, 273.

The first of these Essays on the Theory of Knowledge appeared in 1898. Its special title was "Sui limiti e l'oggetto della conoscenza *a priori*." This careful study of the limits and object of *a priori* knowledge paved the way for the more comprehensive examination of the philosophy of metaphysics now presented in the second essay. It was widely recognized at the time as a very able defense of empiricism from a new point of view. Even critics who were not able to accept the author's fundamental positions freely expressed their admiration for his extensive reading, wealth of ideas, vigorous reasoning, and constructive power. An inquiry into the nature of abstract ideas had led Professor Guastella to a radical and consistent nominalism. He not only found himself in agreement with Roscelinus, Abélard, and Occam on the general thesis that *universalia sunt nomina*, but was also forced by an inexorable logic to admit certain corollaries of this position which would have made the boldest mediæval thinker pause. He was obliged to reject conceptualism in every form, the so-called 'synthetic judgment,' every vestige of metaphysics. If the universals are only words, with no objective reality corresponding to them, all knowledge originates in sense-perception, proceeds from experience, grows with observation and interpretation of the sense-given material. *A priori* knowledge of the real is impossible. Simultaneousness and succession, the marks of the phenomenal world, can only be known *a posteriori*. The truths of mathematics may be known *a priori*, because this science deals solely with the categories of similarity and dissimilarity.

Of the second essay, dealing with the Philosophy of Metaphysics, the present volumes form only the first part. Its special subject is Efficient Cause. According to the general plan, this is to be followed by a second part dealing with the metaphysical concepts involved in the question of the external world, or things-in-themselves, and a third part dealing with the metaphysical concepts in psychology, ethics, and law. As the remaining parts are likely to claim as much space as the first, which contains over two thousand pages, we may possibly have to wait some time for the completion of the work. But students of philosophy will welcome each part that is issued.

Having stated the object of the second essay, and especially that of its first part, in a chapter on Empirical Causes and Meta-empirical Causes, Professor Guastella deals in six chapters with Anthropomorphism, The

Mechanical or Impulsionist Philosophy, Origin and Development of the Idea of Efficient Cause, the Doctine of the Unknowable and the Idea of Efficient Cause, the *a priori* Philosophy, and Dialectical Realism. There is a supplement of over three hundred pages on the Immanence of the Platonic Ideas, and another on the Pythagoreanism of Plato and his disciples, Xenocrates and Speusippus, and a deeply interesting appendix of over two hundred pages on the theme "Nihil oritur, nihil interit."

Under the caption of Anthropomorphism, the author discusses Theo logical Philosophy, Animism as an Explanation of Biological Phenomena, Hylozoism, Panpsychism, Idealism, and the Concept of Causality suggested by Anthropomorphism. The distinction between what Professor Guastella calls panpsychism and idealism, on the one hand, and hylozoism, on the other, may be useful, even though there is a certain inevitable artificiality in the groupings of philosophical systems that result from the adoption of such a principle of classification. Each of the numerous systems examined is shown to rest upon anthropomorphism. This is regarded by the author as sufficient to discredit it. Nor can there be any doubt that the tendency to assimilate the less known to the better known, the phenomena of nature to those of the human mind, has been a fruitful source of palpable errors. It has peopled the heavens and the earth with beings that never had any objective existence, and has established important moral relations between these unsubstantial creatures made in the image of man and their living creators. It has made of abstract thoughts objective realities, and fancied that it found in them the explanation of the sensible universe.

But when this has been freely granted, the question still arises whether the tendency which led the immature mind too far afield, beyond the bounds of reality, may not, after all, have impelled it in the right direction. Is the assumption of a similarity between the world without and the world within really nothing but a sophism? Does not the conception of man as a microcosm, presenting in his own constitution and development an index, as it were, of nature's elements and forces, rest upon the data of empirical science? Is there a more vital part of the doctrine of evolution than the affirmation of man's kinship with other types in the ascending scale of existence? It does not seem necessary to abandon the fundamental positions of Professor Guastella's philosophy in order frankly to recognize in the assimilation of the processes of external nature to those of the human mind something more than an idle play of sophistry, namely, a sense of the unity underlying all the multitudinous phenomena. How far the world in reality is anthropomorphous is a fair question. Is will, will, or thought, thought, only when raised to its highest known potency, in man? What are things-in-themselves? To this last question the author will address himself in the second part of this essay. It will be interesting to see how well he can steer his course between some form of the materialism he rejects and some form of the panpsychism he likewise discards.

Professor Guastella recognizes no efficient cause except the antecedent in an invariable sequence, and accounts for the origin and growth of the meta-empirical conception of an efficient cause by a tendency on man's part to find in his own voluntary and mechanical action an explanation of this natural sequence. In reality, he observes, human volition is a rare and exceptional phenomenon, which plays a scarcely perceptible part in nature's economy. There is no doubt about the existence of such a tendency, and the warning against allowing it to obscure our vision is legitimate. But the reader misses a statement of the exact relation between what is will in man and what seems will in nature outside him. Does human volition fall within a larger category, or is man's genetic connection to be ignored? In the pitiable state of our knowledge concerning any other part of the universe than our own little planet, are we prepared to affirm that volition, even of the kind displayed by man, is such a *quantité négligeable* in the sum of things?

A convinced opponent of all scepticism and agnosticism, the author sees in the quest for the ultimate reality of things only another form of the resort to a meta-empirical efficient cause, and in Spencer's idea of the Unknowable essentially the same demand for a causation not warranted by scientific observation. It may be questioned whether the estimate is just in either case. One may be forced by what seem valid considerations to the conclusion that things are not in themselves what they appear to our senses, without the slightest inclination to introduce supra-mundane causes. It is also possible to recognize no other efficient cause than the antecedent in an invariable sequence, and yet to acknowledge certain inevitable limitations of our knowledge. While dogmatism is, of course, out of place, and it is as presumptuous to affirm that man will never know as to declare that he will know what at present eludes the grasp of his mind, there does not seem to be any means of determining how far the vast realms which to-day extend beyond the reach of his inquiring intellect may be known to him in coming ages, or whether to the end of his existence on earth he shall continue to be baffled by problems he cannot solve and aspects of reality he may not know.

Is the *a priori* method inadmissible in dealing with the phenomenal world? Professor Guastella bars it out; and there is much force in his contention that, influenced by the imposing certainty of mathematical reasoning, philosophers have sometimes raised a false and inapplicable standard, and unconsciously have substituted for the real world a world of their own creation. The inductive method has been the great instrument by which our age has gained its peculiar estimate of nature, and by which its validity must always be tested. But it seems to the reviewer that its significance is exaggerated, when the deductive method is declared to be wholly out of place in the natural sciences. The two methods supplement each other. By induction the hypothesis is suggested, the law is found; by deduction from the law, facts are surmised, predictions are made.

When the discovery of a new planet at a certain distance from the sun, a new chemical element of a certain specific gravity, or the skeleton of a four-toed horse among the fossil inclusions of a certain geological stratum, is predicted, it is a brilliant deduction from a law whose validity is assumed. When the prophecy is fulfilled, the confidence in the law's validity is enhanced by the possibility of such *a priori* statement of fact.

The most common form of *a priori* reasoning is seen in the deductions constantly made from the assumed uniformity of nature. This grandest of all affirmations is entirely out of proportion to our limited individual experience, or even all recorded human experience. It was suggested by experience, but no human experience could be sufficient to prove it. Nevertheless, it approves itself to our minds, because it permits us to predict how nature will behave. There was, after all, a soul of truth in rationalism that must not be allowed to perish. No departure from the realm of experience is, indeed, implied in the double process of inferring general laws from facts observed and then deducing from these laws new facts. For the apprehension by our reason of a rational order is a part of our experience, and the deduction does not become absolutely convincing until the fact foreseen is actually discovered.

Professor Guastella's treatment of dialectical realism is vigorous and elucidating. Of great interest is the conclusion of his supplement on the immanence of the Platonic ideas. Plato complained that none of his disciples understood his teaching as to the ideas. The following reason is assigned for Aristotle's uncertainty. He realized that the Platonic ideas could only be conceived as separate from things, and that consequently Plato's hypothesis of their immanence was a logical impossibility and a contradiction; but he was also impressed by the strong efforts of his teacher to give a place to the ideas in the things themselves by identifying the former with the attributes of the latter. He remained in doubt, because the degree of psychological reflection necessary to solve the difficulty was not possible to attain, even by an Aristotle, in an age when the human spirit was just beginning seriously to contemplate its own activities and nature.

Professor Guastella is a clear and forceful thinker, and the lucidity and strength of his manner of writing reflect these characteristics of his thought. The meaning is never obscure; the style, though inclined to breadth, is never verbose or repetitious; the language is invariably apt, dignified, and graceful. It is with profound interest we look forward to the remaining parts of this work.

NATHANIEL SCHMIDT.
CORNELL UNIVERSITY.

Descartes: His Life and Times. By ELIZABETH S. HALDANE New York, E. P. Dutton & Company, 1905. — pp. xix, 398.

The issue by the French Academy of the monumental edition of Descartes's works, which is now on the point of completion, lends additional interest to Miss Haldane's *Life* of the philosopher. Up to this time the

only accounts in English that contain anything more than a mere outline of Descartes's life and activity have been the volume in "Blackwood's Philosophical Classics" by Professor Mahaffy, and the translation of Kuno Fischer's *Descartes: His Life and Doctrine*. The English form of the latter's work seems to have been unknown to Miss Haldane, as also Professor Torrey's volume of selections with introductory chapters in Sneath's "Series of Modern Philosophers" (1892). But even when everything hitherto existing is reckoned in, it is obvious that there was a very real need of a new and more complete account of Descartes's life and work. Miss Haldane's book seems to me well-proportioned and well-written. The most recent sources of information have been utilized, and the material arranged in clear and orderly fashion. The accounts of the philosophical standpoint and contents of the important works are clear, coherent, and well-suited to the general plan and purpose of the volume, which is intended quite as much for the general reader as for the special student of philosophy. The book is to be welcomed as a real and valuable addition to the literature of philosophy. J. E. C.

Science and Idealism. By HUGO MÜNSTERBERG. Boston and New York, Houghton, Mifflin, & Company, 1906. — pp. vi, 71.

This little book gives the text of a lecture delivered last winter before the students of Yale University. In it Professor Münsterberg indicates in brief compass his position in regard to certain fundamental philosophical problems, restating in somewhat popular form the theories of the relation of science to experience, and of the classification of the sciences, which are already familiar to readers of the books and articles which he has published during the last few years. The form of this presentation is admirably clear and direct. Moreover, it is throughout dignified and earnest, as becomes an address on serious topics, and does not seek to gain popularity and effectiveness by the adoption of slang or of phrases caught up from the man on the street. In these respects, at least, this little book may serve as a model for philosophical writers of the present day.

In vigorous terms Professor Münsterberg characterizes the current theories of relativity and prescribes the remedy. "We all know the new sophists who to-day call themselves empiriocriticists and humanists and pragmatists. With them belong the radical 'empiricists' and the 'relativists' and the 'aristocracists' of Germany and their sympathizers in England and America. . . . Free agents we are, they acknowledge, but free agents which know no standards and absolute values; and, as happens so often in transition periods, our pragmatists are hardly aware of their little virtues, but make a boast of their vices. . . . They feel the Life, but they lack the Reason. They want to teach us, and yet warn us against the belief in truth; they want to convince us, and yet assure us that they have no convictions. By a complete misunderstanding of transcendental philosophy, they are frightened by curious caricatures of idealism. . . . But these attacks, well-known for two thousand years, are dangerous no

longer, as the world knows to-day a completely safe remedy for them : the unprejudiced study of Kant and Fichte " (pp. 26–29). Professor Münsterberg might have added the study of Plato and Aristotle and of Hegel to his prescription. Indeed, how much of the 'originality' of the present day would be happily destroyed by a thorough study of the history of philosophy!

There is undoubtedly a certain dogmatic tone in the author's criticisms, as well as in the statement of his own views. This was perhaps unavoidable on the present occasion. But there is something in the manner as well as in the matter of Professor Münsterberg's writing which reminds one forcibly of Fichte, the master whom he acknowledges. It is not necessary here to give an account of the position of the book. As readers of the REVIEW are aware, the cornerstones of the author's theory are voluntarism and the system of absolute values. What is here set forth is scarcely more than a statement of a standpoint and a summary of results. A new book, however, is soon to be published by the author, and to it we must look for the systematic exposition and support of the views here summarily stated.

J. E. C.

L'attention. (Bibliothèque internationale de psychologie expérimentale.) Par W. B. PILLSBURY. Paris, Octave Doin, 1906. — pp. 315.

The high standard of excellence set by the previous volumes of this series has been fully maintained in the present instance. The descriptive portions of the text are presented clearly and attractively, and the numerous discussions are for the most part based upon sharply stated issues and conducted with a conservative fairness and a convincing soundness. The volume succeeds in being what its author aimed to make it, a comprehensive and systematic bringing up to date of the results of various researches on attention, and a statement of a theory which tries to ground itself solidly upon the facts. A refreshing feature of the book is that the descriptive analysis is directed largely to the familiar happenings of every day life, and not primarily to the more artificial experiences of the laboratory. These latter facts, however, receive abundant recognition in the sections devoted to theory.

Abandoning the usual classifications of the textbooks, Professor Pillsbury advances at once to an analysis of the results themselves which the process of attention secures. Whether the primary result of this process is to be described as a heightening of intensity or as an increase in clearness, the author declares it impossible to determine absolutely. He himself leans decidedly to the latter view.

After a brief description of the motor phenomena accompanying attention, the author proceeds in the third chapter to prepare the way for his entire subsequent treatment by discussing the conditions of attention. These are divided into two classes, the objective and the subjective. The most important of the former is change of intensity. The subjective conditions are more difficult to discover, but their exposition is particularly illuminating and characteristic. What we shall at any moment select from the

vast array of things to which we might conceivably attend, is determined not only by some actually occurring process of consciousness, — as when, for example, preference for one of two competing visual fields or for a certain portion of a complex field, is given by the presence of some directing image, —but also by more remote though no less influential factors. These latter are such as the general mental attitude of the moment, as determined by one's temporary occupation or interests; or such as lie much more remote from the present and include the numberless effects of education, of past experience, and of the pressure of social demands; or, lastly, and still more remotely, such as are purely hereditary, a simple illustration in point being the compulsion under which we are to attend to moving objects. Here, as I have indicated, in the exposition of the conditions of attention, lies the spirit which dominates the entire volume, — the contention that the subject-matter of our attention, whether it be an object of the external world or an image called up by association, is determined in large measure by the past history both of the individual and of the race.

Neither interest nor the feeling of effort are to be made special conditions of attention. The latter is rather an accompanying phenomenon, the former a term that includes several conditions of both the objective and subjective variety. Apperception, in its proper use, refers simply to the fact that any given event in consciousness would have been different had the past history of the individual been other than it actually was.

The various theories of attention are clearly set forth and are criticised, one and all, for having attempted to explain the entire process of attention by means of some one of its partial aspects. The cerebral side of the matter is admirably set forth, and the decision is reached that the findings of both anatomy and pathology point to the frontal lobes as the seat of attention. The view of Exner is upheld, against those of Müller and Wundt respectively, to the effect that the activity of the frontal lobes is one both of reinforcement and of inhibition, and not either of these alone.

In conclusion, the author reaffirms his view that there is but one variety of attention, and that, no matter what its manifestations, it is always to be defined as an increase in the clearness and importance of a mental process, — whatever this process may chance to be, — which becomes for the moment the center of consciousness.

The work of translation seems to have been done excellently, and the only blemish to be noted is the presence of an excess of typographical errors. These are not numerous in the body of the text, but their conspicuousness in the citations of English and German works, both in the footnotes and in the otherwise excellent bibliography, indicates an inexcusable carelessness on the part of the proof-reader. Errors are present in over ten per cent. of the references in each of these places.

A. H. Pierce.

Smith College.

Über die Willenstätigkeit und das Denken. Von NARZISS AACH. Göttingen, Vanderhoeck & Ruprecht, 1905. — pp. x, 294.

This volume is the outgrowth of experiments which have for the first time, so the author asserts, carried out the program implied in the assertion of Wundt and others that the reaction experiment is mainly of value for the opportunity it affords of carrying on controlled introspection of the movement complex. It is an investigation of reaction times in which numerical results are altogether subordinated to the self-observations and to deductions from observations. Hardly as many experiments were performed as there are pages in the book.

Introspection is justified theoretically on the basis of G. E. Müller's *Perseverationstendenz*. It may be defined as the observation in memory after-image, with a psychological problem in mind, of a process that has already been developed with another problem in view.

The experiments covered the entire range of reaction experiments: simple sensory and motor reactions, the various types of cognition reactions, choice and association reactions, with some added forms in which free choice might be made among prearranged groups of responses or associations, when any one of a class of stimuli was shown. It will be impossible within the limits of this review to mention, even briefly, all the important results. Three may be selected because of current interest.

The much disputed difference between the sensory and motor forms of reaction was found in all subjects without much reference to the mental type of the observer. The difference in the mental attitude that occasions the difference in time is not one of kind so much as of degree. There is never obliviousness of the one process when the other is present, although the consciousness of the one may be due only to the tendency created by a knowledge of the task that has been set. In each case the nature of the conscious preparation is the same, but with difference of emphasis. The consciousness is always of stimulus to be followed by reaction, but the author distinguishes nine stages of relative clearness of stimulus and response. There is never attention first to stimulus and then to movement, as Wundt has claimed, but from the beginning adjustment is always to stimulus with the purpose of responding.

As greater and greater complexity is introduced into the problem, the adaptation changes its character rather in the more or less vaguely ideated awareness of the task than in the conscious elements proper. The time needed for response becomes greater and greater as the expectation of the stimulus becomes less definite and the preparation for response more general. But the essential character of the adaptation does not change. There is always preparation for attention to one of several stimuli with awareness of the task, — viz., to respond with some one of several movements. In no case is it possible to distinguish successive phases of the reaction process, and there is never any possibility of isolating part processes from the total by subtraction.

Dr. Aach devotes much space to a consideration of the actions that seem to be foreshadowed by no conscious processes, and to mental processes that run their course without discoverable imagery. These are found in the awareness of the problem without the slightest representation of the movement to be made, and the appreciation so frequently present that there is something we should recall without an inkling of what it may be. The solution offered is that the physiological adaptation that corresponds to the task has some vague conscious concomitants that constitute what might be translated as a non-ideational consciousness (*unanschauliche Bewusstheit*).

Throughout the entire discussion great stress is laid upon the importance of the task or purpose in controlling thought and action. The latter part of the book, which is devoted more strictly to thought, ascribes to the 'problem' a new function, for concepts and abstraction in general are but embodiments of the purpose, as a dynamic force.

The investigation is very evidently an outgrowth of Külpe's work on the effect of the problem in determining attention, and is closely related to Watt's investigation of the influence of purpose, in the control of association.

While we may occasionally criticise the author for attempting to draw over-sharp distinctions, and for putting new facts in old terms, the work as a whole is one that marks a decided advance, if reaction times are to become instruments for the analysis of consciousness rather than specimens in a museum of mental quantities.

An appendix of forty-five pages gives the results of an elaborate series of tests of the Hipp chronoscope that should stand to the new model as Külpe's to the old.

W. B. PILLSBURY.
UNIVERSITY OF MICHIGAN.

The following books also have been received :

Concepts of Philosophy. By ALEXANDER THOMAS ORMOND. New York, The Macmillan Co., 1906. — pp. xxxi, 722. $4.00.

An Outline of the Idealistic Construction of Experience. By J. B. BAILLIE. London, Macmillan & Co., 1906. — pp. xx, 344.

Memoir of Thomas Hill Green. By R. L. NETTLESHIP. New York and Bombay, Longmans, Green, & Co., 1906. — pp. vii, 256.

Mental Development in the Child and the Race. By JAMES MARK BALDWIN. Third edition. New York, The Macmillan Co., 1906. — pp. xviii, 477. $2.25.

The Myths of Plato. By J. A. STEWART. London, Macmillan & Co., 1905. — pp. xii, 532.

Memories and Thoughts. By FREDERIC HARRISON. New York, The Macmillan Co., 1906. — pp. ix, 409.

The Evolution of Immortality. By C. T. STOCKWELL. Boston, James H. West Co., 1906. — pp. 190. $1.00.

Pathological Aspects of Religions. By JOSIAH MOSES. American Journal of Religious Psychology and Education, Monograph Supplement, Vol. I. Worcester, Mass., Clark University Press, 1906. — pp. v, 264. $1.50.

Outline of the Vedanta System of Philosophy. By PAUL DEUSSEN. Translated by J. H. WOODS and C. B. RUNKLE. New York, The Grafton Press, N. D. — pp. vi, 45. $1.00.

The Syllogistic Philosophy, or Prolegomena to Science. By FRANCIS ELLINGWOOD ABBOT. Two volumes. Boston, Little, Brown, & Co., 1906. — pp. xii, 317 ; vi, 376.

Ästhetik : Psychologie des Schönen und der Kunst. II. Teil : *Die ästhetische Betrachtung und die bildende Kunst.* Von THEODOR LIPPS. Hamburg and Leipzig, Leopold Voss, 1906. — pp. viii, 645. M. 12.

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Fries und Kant: Ein Beitrag zur Geschichte und zur systematischen Grundlegung der Erkenntnistheorie. II. Kritisch-Systematischer Tiel : Grundlegung der Erkenntnistheorie. Von THEODOR ELSENHANS. Giessen, Alfred Töpelmann, 1906. — pp. xv, 223. M. 5.

Grundlegung zur Metaphysik der Sitten. Von IMMANUEL KANT. Herausgegeben von KARL VORLÄNDER. Dritte Auflage. Leipzig, Verlag der Dürr'schen Buchhandlung, 1906. — pp. xxx, 102. M. 1.40.

Über die Arten des Seins. Von HANS PICHLER. Wien und Leipzig, W. Braumüller, 1906. — pp. 59.

Religion und Wissenschaft. Von ALEX. VON MOCSONYI. Wien und Leipzig, W. Braumüller, 1906. — pp. 59.

Hegels Lehren über das Verhältnis von Religion und Philosophie. Von HERMANN HADLICH. Halle a. S., Max Niemeyer, 1906. — pp. viii, 82. M. 2.

Leibniz et l'organisation religieuse de la terre. Par JEAN BARUZI. Paris, F. Alcan, 1907. — pp. 524. 10 fr.

Platon. Par CLODIUS PIAT. Paris, F. Alcan, 1906. — pp. vii, 382. 7 fr. 50.

Le divin : expèriences et hypothèses. Par MARCEL HÉBERT. Paris, F. Alcan, 1907. — pp. 316. 5 fr.

La vie sociale et l'éducation. Par JULES DELVAILLE. Paris, F. Alcan, 1907. — pp. viii, 199. 3 fr. 75.

Essai sur les passions. Par TH. RIBOT. Paris, F. Alcan, 1907. — pp. vii, 192. 3 fr. 75.

L'organisation de la conscience morale. Par JEAN DELVOLVE. Paris, F. Alcan, 1906. — pp. 172. 2 fr. 50.

Le sens de l'art, sa nature, son rôle, sa valeur. Par PAUL GAULTIER. Paris, Librairie Hachette et Cie., 1907. — pp. xxxii, 269. 3 fr. 50.

Filosofia, vita e modernità. Per ERMINIO TROILO. Roma, Tipografia La speranza, 1906. — pp. 57.

SUMMARIES OF ARTICLES.

[ABBREVIATIONS.—*Am. J. Ps.* = *The American Journal of Psychology*; *Ar. de Ps.* = *Archives de Psychologie*; *Ar. f. G. Ph.* = *Archiv für Geschichte der Philosophie*; *Ar. f. sys. Ph.* = *Archiv für systematische Philosophie*; *Br. J. Ps.* = *The British Journal of Psychology*; *Int. J. E.* = *International Journal of Ethics*; *J. of Ph., Psy., and Sci. Meth.* = *The Journal of Philosophy, Psychology, and Scientific Methods*; *J. de Psych.* = *Journal de Psychologie*; *Psych. Bul.* = *Psychological Bulletin*; *Psych. Rev.* = *Psychological Review*; *Rev. de Mèt.* = *Revue de Mètaphysique*; *Rev. Nèo-Sc.* = *Revue Nèo-Scolastique*; *Rev. Ph.* = *Revue Philosophique*; *Rev. de Ph.* = *Revue de Philosophie*; *R. d. Fil.* = *Rivista di Filosofia e Scienze Affini*; *V. f. w. Ph.* = *Vierteljahrsschrift für wissenschaftliche Philosophie*; *Z. f. Ph. u. ph. Kr.* = *Zeitschrift für Philosophie und philosophische Kritik*; *Z. f. Psych.* = *Zeitschrift für Psychologie und Physiologie der Sinnesorgane, I. Abtl.: Zeitschrift für Psychologie.* — Other titles are self-explanatory.]

LOGIC AND METAPHYSICS.

Über naturwissenschaftliche Hypothesen. EMIL KOCH. V. f. w. Ph., XXX, 2, pp. 133–177.

This article is an examination of those characteristics of scientific hypotheses which are of psychological interest. Hypotheses go beyond the given facts, by assumptions or suppositions which fall short of complete certainty. Wilhelm Ostwald holds that his energism is free from hypotheses and deals only with magnitudes which can be exhibited and measured; he distinguishes between hypotheses proper, which add something not given in the phenomenon, and such abstractions as the frictionless fluids and mass-points of mechanics, which simply leave out part of the phenomenon and take the rest as essential. Wolfgang Ostwald distinguishes between theories, which, though not yet proved, are capable of proof, and hypotheses, which are wholly or in part incapable of proof or deduction from a higher concept. But this view is too simple for the facts. The presence of such higher concepts is in most cases doubtful, and even when present they are of secondary importance. Moreover, the abstractions of mechanics are also hypotheses as soon as they are regarded as 'pictures' of reality. Neither the reduction of the unknown to the known, nor generalization, nor the exhibition of logically necessary connections, is, as such, a satisfactory characterization of hypotheses. As opposed to the facts given in perception, all hypotheses are only represented, or rather capable of representation (*vorstellbar*), predominantly in visual terms. They picture to the eye the quantitative and qualitative details of a given process, and enable us to 'see through' it. The physicist thinks, not of sensations of warm and cold, but of divisions on the scale of his measuring-instrument, and of molecular vibrations which he can clearly picture. Other scientific

hypotheses, such as the kinetic theory of gases and the theories of ions, electrons, mass, force, and the like, make equally great use of visual representations. Where this capability of visual representation is lacking, we have such verbal or paraphrasing hypotheses as those of vital force, the *vis dormitiva* of opium, etc. The visual image may have indifferently any desired localization with reference to the thinker. It may represent a small object, such as a vibrating molecule, on a much larger scale, or a large object, such as a planet, on a much smaller scale. It may be of a very fragmentary and schematic character, especially where the object pictured is a complicated process extending over a considerable period of time. A periodic motion, for example, may be represented by a wave or sine curve, which exhibits all the different stages at once, in spatial instead of temporal terms; or cause and effect may come to be thought of as simultaneous, two 'sides' of a single fact. The relative difficulty of mentally picturing motion led in the early history of the sciences to a preference for explaining phenomena statically. Description brings out the perceptual elements in the object described, while explanation goes beyond what is given in perception. Mach calls explanation merely 'indirect description,' and holds that it must ultimately be reduced to ordinary or 'direct' description, free from added hypothetical elements; but such an extension of the meaning of the term 'description' obliterates the essential distinction between the two processes. Explanation does not, however, give to knowledge a 'higher value'; the 'necessity' of scientific thought seems to depend, not on 'laws' or 'organization,' but on the consciousness of a compulsion (*Zwangsbewusstsein*), due to a definite expectation based on habit, or on a clear and detailed representation of the elements (*e. g.*, molecular movements) involved in the given process. The terms 'theory' and 'hypothesis' are often used as synonymous. Some writers distinguish them by saying that theories deal with relations that actually can, and presumably in due time will be given in experience, whereas hypotheses offer no prospect of such experimental verification; other writers say that theories unify and systematize a wide range of facts, while hypotheses are only preliminary stages in the development of theories, the theory being the end and the hypothesis the means. On the view here presented, a theory is a systematic attempt to represent the facts with quantitative exactness, making the simplest possible qualitative assumptions. Both hypotheses and experienced facts are in a sense subordinate to theory, which uses both with the greatest freedom. F. D. MITCHELL.

Psychologische Prinzipienfragen. H. CORNELIUS. Z. f. Psych., XLII, 6, pp. 401–413; XLIII, 1 and 2, pp. 18–39.

I. *Psychology and the Theory of Knowledge.* — The charges of Husserl against the writer's epistemological formulation of psychology are nullified when the essential identity of the 'Phänomenologie' of the former and the so-called 'Psychologismus' of the latter is recognized. The reproach of a

biological derivation of the theory of knowledge holds as little against the one as against the other system. The two are in virtual accord in repudiating the claims of a causal psychology, and in demanding a derivation of epistemology from the immediately given of experience. While thus at one in methodological principle, the writers are at variance on certain points. Husserl inconsistently (and unjustifiably, in the opinion of the writer) maintains the impossibility of deriving principles of universal validity from experiential data, an assumption no less damaging to his own than to the writer's system. Again, while nominally adopting the principle of 'Voraussetzungslosigkeit,' according to which all assumptions which cannot be 'phenomenologically' realized are to be repudiated, in practice Husserl deviates widely from this standard. Thirdly, where Husserl would exclude from epistemological research all genetic reference, Cornelius maintains that all fruitful investigations of meanings must include a regression to their data of origin in the immediate. Here, again, Husserl's position is tenable only against a psychology of the causal type, against a causal rather than a genetic analysis. Lastly, since the investigation of the concept of the physical world and of the validity of our judgments upon it lies within the sphere of the theory of knowledge, Husserl's contention that the solution of metaphysical problems lies outside the province of epistemology is unwarranted.

II. *The Material of Phenomenology.* — The material available to the psychologist in elaborating the science of principles consists in the immediately given, the indisputable and presuppositionless, of our psychological life. This material, Husserl and the writer agree, is not to be conceived as a mere manifold of separate and individual experiences. The facts of consciousness which give us cognizance of the coherence of experience, *e. g.*, the 'Gestaltqualitäten' of Ehrenfels, are no less immediately given than the part-processes themselves. On the other hand, sense-experience is not to be confounded with the physical object; neither are the two to be regarded merely as different aspects, subjective and objective, of the same experience. The distinction is that of immediate and mediate, in the opinion of the writer. Husserl, however, introduces a difference in kind, as between experience and the knowledge of experience, describing the former in terms totally foreign to the spirit and method of phenomenology. Thus the statement that in any experience the component parts and abstract moments, however unorganized at the time, are themselves experienced, evidently involves either a doubtful recourse to the concept of the subconscious (*unbemerktes*), or a hopeless confusion of the immediately given with attributes assigned to it by subsequent reflection. Further, knowledge is characterized by Husserl as an 'intentional act' by which experience must be assimilated before it can become 'Bemerken' or 'Wahrnehmen.' Not only would such a doctrine, rigidly applied, reduce knowledge to an infinite regress, but this cleavage of consciousness (already defined as conscious content) into content and act, is itself self-contradictory. Secondly, no

distinctive conscious quality by which intentional experience or act can be differentiated from mere experiences or content is or can be offered. The arbitrary separation of the two is based on a fallacious conception of perception (*Wahrnehmen*) as 'intentional' reference of sensation to an object.

E. MURRAY.

Kant's Antithesis of Dogmatism and Criticism. A. O. LOVEJOY. Mind, No. 58, pp. 191–214.

In his *Critique of Pure Reason*, Kant claims to establish criticism as opposed to dogmatism as the only true and possible method of philosophy. He formulates his method in opposition to the rationalistic systems of Leibniz and Wolff. This article purposes to show that neither historically nor critically is Kant's philosophy so revolutionary or important; that there is little absolutely original in his work. He failed to hold clearly in mind the systems of his predecessors, he overlooked the very basis in thought of all metaphysical reasoning, and never recognized that his most important teaching regarding causality was in fact borrowed from the 'dogmatism' of Wolff. The weakness of the rationalists he finds in their supposed passion to find for every conditioned an unconditioned, and so complete the unity of knowledge. But history shows us rather a passion, not for completeness in the conception of the world of experience and its conditions, but for consistency and coherence in that conception. Philosophical advance has followed a method founded on the principle of contradiction and its corollaries. Leibniz, Wolff, and Baumgarten were most explicit regarding the criterion of *a priori* knowledge, viz., the compossibility of concepts. It is true that Leibniz made all judgments in a sense analytical, but he yet recognized the same distinction as Kant between analytic and synthetic judgments. In an *a priori* judgment, the subject would be inconceivable without its predicate; in *a posteriori* reasoning, the inclusion of the predicate is purely accidental. The *a priori* judgments Leibniz called identical, but identical judgments were not merely tautological. There are those whose opposite can be seen to involve contradiction by an explanation of the whole implicit connotation of the terms involved, showing that the two notions are 'incompossible.' It is these which constitute the substance of our demonstrative knowledge, and especially of metaphysics. One blunder in Leibniz we must still acknowledge: since demonstration consists only in definition, *i. e.*, analysis, there is no possibility of demonstrating synthetic truths; we can find no really instructive logical relations. So Leibniz destroyed the possibility of constructive metaphysics, though he intended no such result. He in fact left the problem to Wolff and Baumgarten, who did indeed make a preliminary investigation of the power of thought before attempting to found a metaphysic. Still Kant charges his predecessors with dogmatism. Interest centers about the principle of contradiction, yet Kant himself certainly recognized it as an absolute criterion of the nature of reality. Did he accept the prin-

ciple only in a restricted sense? He is not clear; he writes as if he had read nothing in German philosophy since Leibniz, and only a part of Leibniz. If Kant had grasped the Wolffian distinction of *a priori* judgments *per essentialia* and *a priori* judgments *per attributa*, we cannot see why he might not have accepted the Wolffian method. He finds the stronghold for his antithesis of dogmatism and criticism in the *reine Anschauung;* but this is a logical chimera, and, even if true, is not essential to the proof of the logical validity of synthetical judgments *a priori*. He limits knowledge to objects of possible experience, but does not so distinguish dogmatism and criticism, while his position that no reality can possess the formal character of *Undenklichkeit*, is the same as that of Leibniz and Wolff. MARGARET K. STRONG.

Les premiers mots de la thèse idèaliste. A. BINET. Rev. Ph., XXXI, 6, pp. 599–618.

This article, as its title suggests, is a criticism *in limine* of the idealistic theory. Throughout the discussion, the author has in mind Strong's book, *Why the Mind Has a Body*, which he considers a very clear and logical expression of the idealistic system. In considering Strong's physiological argument, Binet agrees with him in his strictly scientific discussion of the problem; for there he is, the author asserts, on the solid ground of experience. But when Strong, arguing from the philosophical validity of the facts of optics, holds that the object of which I am immediately conscious cannot be the object which acts on my senses and calls forth the perceptual brain-event, but can at most be a mental duplicate of that object, Binet parts company with him, and perceives in the last part of such an assertion a fatal error. For, he maintains, the fact that the cerebral state does not resemble the perception does not prove that the perception is mental rather than physical. Likewise, Strong is guilty of error in his metaphysical argument; there he allows himself to be misled by his metaphorical terms, which, if thought out in detail, lead to naïve realism. By his criticism Binet believes that he has destroyed the point of departure of the idealistic theory. G. W. CUNNINGHAM.

La commodité scientifique et ses conséquences. J. SAGERET. Rev. Ph., XXXI, 7, pp. 32–52.

In his works, *La science et l'hypothèse* and *La valeur de la science*, Poincaré has introduced the term *commodité* into the expression of scientific principles. The present article is an attempt to justify such a procedure, and to show how it makes more precise the idea of science held by Auguste Comte and the Positivists. By an examination of the Euclidian geometry, and by a comparison of it with the theories of Riemann and Lobachewsky, the author concludes that the former is relative and depends upon our relation to the external world; change either the sense of man or the universe in which he finds himself, and the geometry of Euclid will also change.

Likewise the revolution of the earth is forced upon us only by our present mental environment; to affirm that the earth does not revolve is simply to close one's eyes to the inheritance of the human race. There is no absolute necessity; and so Poincaré's notion, which means only necessary and progressive adaptation, is a happy one for science and for philosophy as well. It also demands a separation between mathematics and the other sciences, as is evident in an extended survey of the so-called mathematical laws; for these are not attained by approximation as are the laws of the other sciences which never reach definitive perfection. Further, this separation is justified by the nature of the case, for mathematics is a means and not an end for knowledge. Thus, in the author's opinion, Poincaré has completed the good work begun by Auguste Comte, the attempt to express the idea of science in a definitive manner.

G. W. CUNNINGHAM.

The New Realism and the Old Idealism. J. S. MACKENZIE. Mind, No. 59, pp. 308–329.

Two formidable antagonists to British Idealism have recently arisen, Pragmatism and Realism. The former emphasizes the volitional aspect of consciousness and make the world a subjective construction. For the latter, the world is a datum, though not in the crude sense of early Greek philosophy, or of the more refined common sense theories. G. E. Moore, a representative leader of the realistic movement, argues against Idealism: (1) that it cannot be proved apart from the doctrine that '*esse* is *percipi*'; and (2) that it is paradoxical in relation to concrete experience. (1) On the contrary, the principle that '*esse* is *percipi*' is refuted as much by Idealism as by Realism, though in a different way. Realism maintains a sharp distinction between things and our consciousness of them, and affirms of the world of meaning a reality distinct from the world of direct experience. Thus, every object in consciousness, whether a material thing, a feeling, or a universal, has independent reality. It is true that many idealists have over-emphasized the subjective aspect of their philosophy, but still reality for the idealist is not the merely perceived. It is the concrete whole; the part has a partial reality in virtue of its place within the whole. The world of meaning is thus constantly interpreted in relation to the world of psychical fact, and not as opposed to it. Realism creates a dualism by holding the two worlds apart. Idealism offers the only proof possible for a philosophical theory — that of making the universe intrinsically intelligible. (2) The idealist denies that his theory involves the paradox of reducing concrete experience to illusion. The world of meaning essentially goes beyond the world of fact. To show that things are more than they seem is as characteristic of every day knowledge as of speculative notions. Interpretation is not denial of reality.

M. W. SPRAGUE.

Pragmatism and Pseudo-Pragmatism. F. C. S. SCHILLER. Mind, No. 59, pp. 375–391.

In answer to the charge made by the author that A. E. Taylor had inconsistently embodied pragmatic conceptions in his system of absolutism, the latter made rejoinder that the alleged indebtedness to pragmatism was due to misinterpretation. But Taylor's explanation of the points at issue removed the doubt as to his intention, not as to the logical justification of his employment of certain concepts. The main points in which Taylor fails to be a consistent absolutist are as follows: He employs the categories of purpose and teleology; he recognizes 'instinctive' demands of the intellect; he admits postulates, not axioms, as basal to science (excepting metaphysics and arithmetic); he sometimes regards thought as an intermediary function, and objects to studying the knowing faculty apart from the content of knowledge; he maintains an empiricist criterion of ultimate truth in addition to his rationalistic criterion. Moreover, he fails to understand the meaning of the pragmatic test of truth, assuming that two practically equivalent assertions are regarded as meaningless, whereas they are regarded simply as meaning the same. He misunderstands 'practice,' which is not independent of 'theory' for the pragmatist. Both are relative to thought-purposiveness. He furnishes certain illustrations of 'useless' knowledge (from the fields of mathematics and metaphysics), and challenges a pragmatic interpretation, which is successfully forth-coming. Taylor evinces another misunderstanding in his false distinction between psychological effects and logical consequences. The former include the latter, which are differentiated by purposive selection. The logical is a *valuable* psychological product.

M. W. SPRAGUE.

The Experimental Theory of Knowledge. JOHN DEWEY. Mind, No. 59, pp. 293–308.

Like anything else, a cognition must have characteristic describable features. Analysis of a typical case leads the author to definition. Take the case of an odor which leads to the plucking and enjoyment of a rose. Every event in the series is in consciousness. But if the odor is mere odor, unaccompanied by anticipation of its fulfillment, the experience is merely serial and no cognitive element enters. This denies the truth of identifying presence in consciousness with knowledge, and affirms the separation of being from knowing. But, with the completion of the series, the smell is transformed. It has the retrospective aspect of having excited activity and produced gratification. It has gained meaning, but this is not yet knowledge. This point is fundamental. Knowledge is essentially not the experience of fulfillment, but the experience of intentions of fulfillment. Suppose the same odor is experienced later. It now means an activity culminating in a rose. The experience is cognitional. Generalizing, we arrive at the following definition: An experience is a knowledge, if in its

quale there is an experienced distinction and connection of two elements of the following sort. One means or intends the presence of the other in the same fashion in which itself is already present, while the other is that which, while not present in the same fashion, must become so present if the meaning or intention of its companion or yoke-fellow is to be fulfilled through an operation it sets up. Two types of knowledge are involved here: knowledge as anticipatory meaning and knowledge as assurance. The latter is the former successfully realized. The odor, as meaning rose, is fulfilled in the real rose. The odor, however, may turn out not to mean rose, but something else. Here is the starting point of science. Refuted meanings demand criticism. The fulfillment or non-fulfillment of intended meaning becomes in deliberate scientific reflection the instrument of criticism and evaluation. The success of conscious endeavor depends on the character of the meanings employed; hence the impartial scientific evaluation of meanings is of dominating importance. Truth is the experienced relation between intended meaning and realization of the meaning through its own natural operation. This relationship is central for will and endeavor. The absolutist theory hypostatizes this abstraction into real being, and destroys the truth of concrete things.

M. W. SPRAGUE.

Realism and Pragmatism. B. H. BODE. J. of Ph., Psy., and Sci. Meth., III, 15, pp. 393–401.

The distinction usually drawn between sensation and thought, 'acquaintance-with' and 'knowledge-about,' is that in the former the object of awareness is supposed to be a modification of the conscious state, while in the latter it is not. Among contemporary realists, the contention is whether these are distinct and irreducible forms of knowing, or whether all knowing can be reduced to the type of 'knowledge-about.' In any of these forms, however, realism fails to make out a case; and pragmatism then offers its services as mediator. Pragmatism finds the element of truth in the realism of Hobhouse to be its recognition of an element or factor in experience other than representative knowing; and in that of Woodbridge and Montague to be the doctrine that consciousness is not substantive or adjectival but relational. Pragmatism attempts this mediaton by holding that physical world and experiencing individual are terms of purely functional import. But its endeavor to derive both sense and thought from a more fundamental category, though suggestive, is no more successful than the attempts already noted to reduce all 'acquaintance-with' to the category of 'knowledge-about.' The contention of the present paper is that, though the view of knowing as two-fold in form is not necessarily final, it is more adequate than those which have been offered as substitutes.

MATTIE ALEXANDER MARTIN.

Les objections au monism. FÉLIX LE DANTEC. Rev. Ph., XXXI, 8, pp. 113–135; XXXI, 9, pp. 260–282.

It is not ordinarily for scientific reasons that one opposes monism. One follows the logic of feeling. The thesis of present day monism is this: Nothing of which man is conscious takes place without a change in something that is susceptible of measure. The aim of monism is to succeed in measuring those modifications which no one can to-day measure. The thesis of the dualists is this: The human machine functions according to the laws of physics, chemistry, and physiology; but it is directed by the soul, which acts arbitrarily. If a machine analogous to the phonograph, a 'phrenograph,' had been invented, the record of mental states and processes could be made. Even if this machine were invented, no one, it is true, would be able to know the mental states of the person observed any more than the physicist, who sees the sinuous line on the wax cylinder of the phonograph, hears the piece of music traced by that line. It is the reversibility of the phonograph which proves the relation between the sinuous line and the musical air. The piece of music is a vibratory movement measured directly by the human ear and the sinuous line on the record is that movement measured indirectly by means of the registering cylinder. Sound is an epiphenomenon of the vibratory movements of the air which are called sonorous. If the hypothetical phrenograph could record the movements which accompany thought in the human brain, one would be justified in considering consciousness an epiphenomenon connected with the measurable phenomena which the machine had registered, just as sound is an epiphenomenon for a deaf man who is dealing with acoustics. The most serious objection to monism grows out of the verdict it gives regarding free will. Monism is rejected on account of its logical consequences. Monism holds that psychologists study, only with a different method, phenomena of the same order as those which physiologists study. The translation into the language of physiology of facts of the psychic order is not only valuable, but indispensable. It is because a man knows only subjectively his cerebral changes and ignores the oxygen, food, etc., which make for the determination of his acts that he believes that he acts by himself alone. Men are thus like puppets having wheels concealed within which are moved by strings visible without. The wheels represent the peculiarities of the cerebral structures and the strings represent exterior agents (oxygen, food, temperature, etc.). The conscious puppet knows the wheels, but is ignorant of the strings; he thinks himself free. The outside observer, on the contrary, sees the strings and not the wheels. The biologist-monist aims to take into account the wheels and the strings. Monism rests unassailable behind the precise definition. Nothing takes place of which man is conscious without a change in something susceptible of measure.

FRANK B. CRANDALL.

Space and Reality. JOHN E. BOODIN. J. of Ph., Psy., and Sci. Meth., III, 20, pp. 533–539; 22, pp. 589–599.

The first part of this discussion falls under the caption of Ideal or Serial Space. The *a priori* of Kant has, since Spencer, been translated into biological terms, though Spencer failed to see that we inherit tendencies, not axioms. The content of our space perception, in so far as it exists, is probably concomitant with the going on of the growth process, determined by the phylogenetic tendencies and intra- and extra-organic stimuli. What actual content there is must be determined by statistical inquiry and not *a priori*. Geometrical construction is found to be a matter of logic and to be conducted as any free logical inquiry; but the ideals of mathematics, as other ideals, seem to have a phylogenetic basis. The conception of space as perspective is valid, if regarded as phenomenal; but, when translated into terms of absolute idealism, space loses its significance. The second part of this discussion is devoted to Real Space. The space zero is a real nothing which conditions not only subjective construction, but real action as well. This conception saves us from the absurdity of regarding space both as serial and as real, as our construction and as conditioning the world of processes. It admits the conclusions of idealism so far as they go; but, at the same time, it does justice to the surd which realism has always felt to remain. In explaining motion, empty space makes it possible to abstract from bodies and resistance. It also gives us the possibility of objective distance, which cannot be reduced to a property of things, and yet conditions the actions of things. Most important of all, this conception of space satisfies the criterion, that those conditions which limit and must be taken account of in the realization of purpose, must themselves be real. MATTIE ALEXANDER MARTIN.

Nécessité de la métaphysique. V. ERMONI. Rev. Néo-Sc., XIII, 3, pp. 229–245.

Metaphysics is not dead, but is the vital principle of all philosophy. By a strange fatality, Kant, with a mind strongly metaphysical, dealt the most terrible blow to metaphysics by declaring its object unknowable. This gap he attempted to fill by an appeal to practical reason; but his successors have shown such an appeal unwarranted, and have expelled metaphysics from this asylum. Positivism rejects metaphysics as incompatible with its method, while phenomenalism, in the suppression of the noumenon, the Absolute, suppresses also true metaphysics. Two considerations, however, go to prove the necessity of metaphysics. Metaphysics plays a normative rôle, because it systematizes and coördinates all our knowledge. It is also explicative. It seeks in the invisible the *raison d'être* of the visible, in the insensible that of the sensible, in the spiritual that of the material, in the transcendent that of the empirical. Positivism declares that human knowledge is limited to facts established by experience. But in establishing this theory of knowledge, one leaves the field of facts to enter that of

principles and ideas. Positivism is a partisan of universal determinism; the latter holds that all phenomena are necessarily bound one to another, that they unfold inevitably, that the consequent has its reason for being in the antecedent. But has one established this relation empirically? In the effort to explain, there has been recourse to this hidden bond, which is a metaphysical element. Agnosticism, positivism under a different name, claims that the Absolute is unknowable; but this, its fundamental dogma, is a metaphysical principle. All these tendencies are, at bottom, metaphysical tendencies; all these efforts converge towards the metaphysical solution. In conclusion, metaphysics is necessary to philosophical disciplines; philosophy can no more live without metaphysics than the human body without respiration. MATTIE ALEXANDER MARTIN.

PSYCHOLOGY.

Qu'est-ce qu'une passion? TH. RIBOT. Rev. Ph., XXXI, 5, pp. 472–498.

The origin of passion is internal and external, but the influence of the external as a cause is inversely proportional to the internal tendency. Passion, in the final analysis, is largely a matter of physiological constitution. The sign of a surcharge of energy, it may be directed to a goal accidentally provided. It differs from emotion in being a more complex process, prolonged and dominated by an idea or image. The affective elements of the ruling idea predominate in real passion. Yet an intrinsically logical process is present, an affective judgment of value. But reason, here, is at the service of passion. In passion of a violent type, reason is reduced to a minimum, and the passion only differs from instinct in complexity and clear consciousness of end. But to reason passion owes its stability. Movement is an integral part of passion as it is of emotion, and by its degree of movement passion may be classified as dynamic, associated with the free or artistic type of imagination, and static, found with the scientific imagination. Passion, viewed synthetically, is a solid bundle of coöperating forces at whose center is a tendency violently struggling toward a fixed aim; dragging in its train perceptions, images, and ideas; and sustained by a rational logic. C. WEST.

L'intellectualisme et la théorie physiologique des émotions. M. MAUXION. Rev. Ph., XXXI, 5, pp. 498–519.

Mauxion discusses the significance of the intellectual, as compared with the physiological, theory of emotion. The former refers emotion to a central, the latter to a peripheral origin. The intellectual theory finds a representational element in all sensation. Indeed, the result of atomic activity is conceived as movement, on the one hand, and mental representation, on the other. The cell is a system of molecules, whose movements find subjective expression in a synthesis of representations carrying the affective qualities of pleasant and unpleasant: pleasant, when the representations are in harmony; unpleasant, when in opposition — that is, according to

the reciprocal reinforcement or arrest of molecular movement. The human brain is but a complex system of cells. In an emotion there are two parts: First, the form of the emotion, constituted objectively by certain physiological phenomena and subjectively by accompanying agreeable or disagreeable sensations; and, second, the other and more basal feeling of pleasant or unpleasant, a result of relations between representations and an integral part of the emotion. The first is emphasized by the physiological school to the neglect of the last. Alcoholic intoxication may give rise to such a formal emotion as the first, without the second, where the excitations are not directed towards the centers of reflection. But the physiologists are right in observing that the emotion could not exist without these physiological phenomena; and the facts of voluntary and vasomotor innervation are anything but simple manifestations. The physiological theory is compatible with the intellectual, since the representations and their correlative movements can be considered as the expression of an activity at once psychical and physical. C. WEST.

Reasons for the Slight Esthetic Value of the 'Lower Senses.' W. B. PITKIN. Psych. Rev., XIII, 6, pp. 363–377.

The aim of the article is to furnish a critical review of the various explanations that have been put forward to account for the small esthetic value of the lower senses, and then, in the light of these explanations, to formulate a theory which will include their truth and exclude their error. The theories examined are in the main those of Volkelt, Marshall, Santayana, Ribot, and Guyau. The conclusion reached by Pitkin is suggested by the Galton tests in after-imagery. The strongest imagery (both after-imagery and secondary revival) is in general confined to visual, auditory, and kinesthetic qualities. Consistent with this fact is the further fact that music, painting, sculpture, and their variants form the chief realm of art and appreciation. In the 'lower' senses we find a much more rapid 'dampening' of the after-images, and the persistence of such after-images without qualitative variation is much briefer than is the case with visual, auditory, and kinesthetic images. So that from the standpoint of the psychology of judgment, because of the non-parallel variation of sensation-quality and feeling-tone (including both of these in the persistence of 'content'), the latter loses its relation to the former, in such degree that quality and tone become as it were sundered experiences, neither being a mere predicate of the other. It is further noted that, in the case of the higher sensations, there is a larger mass of imagery elements in the background, which is more stable and homogeneous than the background of lower sensations. This fact facilitates esthetic judgment in the sphere of the higher sensations and makes it difficult in case of the lower. If either sensation-quality or feeling-tone 'dampens' or changes too rapidly, attention and judgment become difficult, and where the rates of variation of these two widely differ, judgment concerning an affectively toned sensation becomes uncertain or impossible. W. A. H.

NOTES.

The University of Berlin, in celebrating the centenary of its foundation, will hold services in commemoration of Fichte, who contributed greatly toward its establishment, and was its first rector. It is proposed to erect a monument in acknowledgment of the great debt which the German nation owes to him, and a committee, composed of the Chancellor of the Empire, the Ministers of Public Instruction and of War, the Rector of the University, and other prominent public officials, has been appointed to arrange for this fitting memorial. Communications and subscriptions should be addressed to Akademische Auskunftstelle an der königlichen Universität, Berlin, C. 2, Platz am Opernhaus.

The University of Edinburgh not long since celebrated the fiftieth anniversary of the induction into the chair of Logic and Metaphysics of Professor A. Campbell Fraser. Professor Fraser, who is now eighty-eight years of age, was presented with congratulatory addresses from the Senatus and from the honors graduates in philosophy and former members of his honors class. In reply, Professor Fraser gave some interesting reminiscences of his long career as professor of philosophy. Seven of Professor Fraser's pupils have held chairs of philosophy in Scottish universities, while in Oxford and Cambridge the chairs of Green and Sidgwick have been filled by men of his training. Nine of his students have become professors in the universities of other parts of the English speaking world. A large number of theologians, too, received their philosophical training in his classes.

We have received the first number of *Rivista Rosminiana*, an Italian philosophical periodical dedicated to the propagation and diffusion of Christian idealism. It is edited by Professor Giuseppe Morando, of Lodi.

We have received also the prospectus of the first number of *Revue des Sciences Philosophiques et Theologiques*. It is to be a quarterly periodical, each number consisting of about two hundred pages, and is intended to cover the entire field of Philosophy and Theology, including Logic, Metaphysics, Ethics, Æsthetics, Psychology, Speculative and Biblical Theology, Theological Methodology, the History of Philosophy and of Dogma, and the Philosophy of Religion.

The death of Senatore Carlo Cantoni deprives *Rivista Filosofica* of its editor. For the time being the editorial work has been undertaken by Professor Juvalta.

Professor Kuno Fischer has resigned the chair of philosophy at Heidelberg which he long made famous by his great reputation as a scholar and as a brilliant lecturer.

Mr. John Carleton has given $50,000 to Queens University, Kingston, to endow a chair of moral philosophy.

The second meeting of the Southern Society for Philosophy and Psychology was held in Montgomery, Ala., December 27–29.

The Rev. Charles Edward Hart, D.D., Theodore Frelinghuysen Professor of Ethics and Evidences of Christianity in Rutgers College, after twenty-six years of service, has resigned his professorship and has been made Professor Emeritus of Ethics.

We give below a list of the articles, etc., in the current philosophical periodicals:

MIND, No. 60: *F. H. Bradley*, On Floating Ideas and the Imaginary; *G. Vailati*, A Study of Platonic Terminology; *H. Foston*, The Constitution of Thought; *Hugh MacColl*, Symbolic Reasoning; *J. A. Stewart*, Plato's Doctrine of Ideas; *B. Russell*, The Nature of Truth; Critical Notices; New Books; Philosophical Periodicals; Notes and Correspondence.

INTERNATIONAL JOURNAL OF ETHICS, XVII, 1: *W. R. Sorley*, Ethical Aspects of Economics, I; *Frederic Harrison*, Positivists and Dr. Coit; *John A. Hobson*, The Ethics of Internationalism; *David S. Muzzey*, Mediæval Morals; *Frank T. Carlton*, Humanitarianism, Past and Present; *Michael Macmillan*, Bacon's Moral Teaching; *Ira W. Howerth*, War and Social Economy; *W. E. Lishman*, Reflections on Kidd's "Principles of Western Civilization"; *Junjiro Takakusu*, The Social and Ethical Value of the Family System in Japan; Book Reviews.

THE HIBBERT JOURNAL, V, 1: *Editor*, Church and World; *Sir Oliver Lodge*, Union and Breadth; *Dugald Macfadyen*, Reunion; *D. Ffrangcon-Davies*, Christ in Education; *J. H. Muirhead*, The Bishop of Birmingham and the Education Bill; *William T. Seeger*, The Vital Value in the Hindu God-Idea; *John Masson*, Pierre Gassendi and the Atoms; *Henry Sturt*, Do We Need a Substitute for Christianity? *J. Arthur Hill*, Psychical Research as Bearing on Veracity in Religious Thought; *John Gerard*, A Dialogue on Eternal Punishment; *Canon Kennett*, Jesus the Prophet; *A. Smythe Palmer*, The Zoroastrian Messiah; *James Collier*, Phases of Religious Reconstruction in France and Germany; Discussions; Reviews; Bibliography of Recent Literature.

THE MONIST, XVI, 4: *Giovanni Vailati*, Pragmatism and Mathematical Logic; *Charles S. Peirce*, Prolegomena to an Apology for Pragmaticism; *Stephen S. Colvin*, Pragmatism, Old and New; *Richard H. Geoghegan*, Some Notes on the Ideograms of the Chinese and Central American Calendars; *W. S. Andrews*, The Franklin Squares; Criticisms and Discussions; Book Reviews and Notes.

THE PSYCHOLOGICAL REVIEW, XIII, 6: *W. B. Pitkin*, Reasons for the Slight Esthetic Value of the 'Lower' Senses; *A. Wyczolkowska*, A Study of Certain Phenomena Concerning the Limit of Beats; *J. Mark Baldwin*, Introduction to Experimental Logic; *S. S. Colvin*, Certain Characteristics of Experience; *Percy Hughes*, Categories of the Self; Editor's Note.

THE PSYCHOLOGICAL BULLETIN, III, 10; *H. Heath Bawden*, Methodological Implications of the Mind and Body Controversy; Psychological Literature; Books Received; Notes and News.

III, 11: *M. V. O'Shea*, Tendencies in Child and Educational Psychology; Psychological Literature; Books Received; Notes and News.

THE JOURNAL OF PHILOSOPHY, PSYCHOLOGY, AND SCIENTIFIC METHODS, III, 21: *Shepherd I. Franz*, Psychological Opportunity in Psychiatry; *Felix Arnold*, The Given Situation in Attention; *A. H. Pierce*, Emotional Expression and the Doctrine of Mutations; *Willard C. Gore*, The Mad Absolute of a Pluralist; Reviews and Abstracts of Literature; Journals and New Books; Notes and News.

III, 22: *John E. Boodin*, Space and Reality: II, Real Space; *John E. Russell*, The Pragmatist's Meaning of Truth; *George L. Jackson*, The Telephone and Attention Waves; *Kate Gordon*, Metaphysics, Science or Art; Reviews and Abstracts of Literature; Journals and New Books; Notes and News.

III, 23: *Ralph Barton Perry*, The Knowledge of Past Events; *A. H. Pierce*, Should We Still Retain the Expression 'Unconscious Cerebration' to Designate Certain Processes Connected with Mental Life? Reviews and Abstracts of Literature; Journals and New Books; Notes and News.

III, 24: *Walter B. Pitkin*, A Problem of Evidence in Radical Empiricism; *J. H. Farley*, Unity and the World Ground; *William James*, The Mad Absolute; Reviews and Abstracts of Literature; Journals and New Books; Notes and News.

III, 25: *Frances Hall Rousmaniere*, A Definition of Experimentation; *Frederic Lyman Wells*, Linguistic Ability and Intellectual Efficiency; Reviews and Abstracts of Literature; Notes and News; Journals and New Books.

THE AMERICAN JOURNAL OF PSYCHOLOGY, XVII, 4: *Arnold L. Gesell*, Jealously; *E. A. Hayden*, Memory for Lifted Weights; *John F. Shepard*, Organic Changes and Feelings; Psychological Literature; Index to Vol. XVII.

ZEITSCHRIFT FÜR PSYCHOLOGIE, XLIII, 1 u. 2: *G. Heymans*, Weitere Daten über Depersonalisation und "Fausse Reconnaissance"; *H. Cornelius*, Psychologische Prinzipienfragen: II. Das Material der Phänomenologie; *Siegfried Jacobsohn*, Über subjective Mitten verschiedener Farben auf Grund ihres Kohärenzgrades; Literaturbericht.

XLIII, 3: *Ernst v. Aster*, Beiträge zur Psychologie der Raumwahrnehmung; *Siegfried Jacobsohn*, Über subjective Mitten verschiedener Farben auf Grund ihres Kohärenzgrades (Schluss); Literaturbericht.

XLIII, 4: *Th. Ziehen*, Erkenntnistheoretische Auseinandersetzungen; *Hans Abels*, Über Nachempfindungen im Gebiete des kinästhetischen und statischen Sinnes; Besprechung; Literaturbericht.

ARCHIV FÜR GESCHICHTE DER PHILOSOPHIE, XIII, 1: *Karl Joël*, Die Auffassung der kynischen Sokratik, I; *Otto Gilbert*, Der δαίμων des Parmendes; *Heinrich Maier*, Zur Syllogistik des Aristoteles; *Branislav Petronievics*, Zenos Beweise gegen die Bewegung; *J. Eberz*, Die Einkleidung des platonischen Parmenides; *Ludwig Kunz*, Die Erkenntnistheorie d'Alemberts; Jahresbericht.

KANTSTUDIEN, XI, 3 u. 4: *Walter Frost*, Kants Teleologie; *A. Tumarkin*, Zur transcendentalen Methode der Kantischen Ästhetik; *R. Eucken*, Ein neues Buch über Fichte; *Ernst Sänger*, Kants Auffassung von der Bibel; *A. Messer*, Die Philosophie im Beginn des zwanzigsten Jahrhunderts; *W. Reinecke*, Eine französische Huldigung an Kant; *J. Zahlfleisch*, Zu Kants Kr. d. r. Vern. S. 651 (Kehrbach) im Zus. d. Systems; Recensionen; Selbstanzeigen; Mitteilungen.

REVUE DE MÉTAPHYSIQUE ET DE MORALE, XIV, 6: *A. Hannequin*, La méthode de Descartes; La philosophie de Leibniz et les lois du mouvement; *Th. Ruyssen*, La guerre et le droit; *G. Aillet*, La responsabilité objective; *G. Cantecor*, Principes de morale rationnelle par A. Landry; *H. Poincaré*, A propos de la logistique; *A. Fouillée* A propos de l' idée de vie chez Guyau; *L. Couturat*, Logique et moralisme; Tables des matières; Supplément.

REVUE PHILOSOPHIQUE, XXXI, 10: *G. Dumas*, Les conditions biologiques du remords; *F. Paulhan*, L'échange économique et l'échange affectif: le sentiment dans la vie sociale; *W.-M. Kozlowski*, L'« a priori » dans la science; Revue critique; Analyses et comptes rendus; Revue des périodiques étrangers.

XXXI, 11: *H. Bergson*, L'idée de néant; *C. Bos*, Des éléments affectifs de la conception; *E. Rignano*, Une nouvelle théorie mnémonique du développement; *Probst-Biraben*, L'extase dans le mysticisme musulman; Revue générale; Analyses et comptes rendus; Revue des périodiques étangers.

REVUE NÉO-SCOLASTIQUE, XIII, 3: *V. Ermoni*, Nécessité de la métaphysique; *A. Mansion*, L'induction chez Albert le Grand (fin); *Clément Besse*, Lettre de France: L'agonie de la morale; *S. Deploige*, Le conflit de la morale et de la sociologie (suite); *Georges Legrand*, A propos de Maine de Biran; *J. Laminne*, La permanence des éléments dans le composé chimique; *D. Nys*, Résponse aux difficultés proposées par M. Laminne; Bulletin de l'Institut de Philosophie; Comptes rendus.

REVUE DE PHILOSOPHIE, VI, 10: *Paul Gaultier*, La critique d'art; *N. Vaschide* et *R. Meunier*, La mémoire des rêves et la mémoire dans les rêves; *E. Baudin*, La philosophie de la foi chez Newman, IV; Analyses et comptes rendus; Périodiques; L'enseignement philosophique.

VI, 11: *J. Gardair*, La connaissance de Dieu; *G. Gueutin*, Le libre arbitre; *Abbé Gayraub*, Marcel Hébert: L'évolution de la foi catholique; Analyses et comptes rendus; Périodiques; L'enseignement philosophique.